S206 T 621

REPORT TO BE TABLED IN THE LEGISLATIVE ASSEMBLY ABOUT MINISTER'S DECISION ON A CALL IN OF A DEVELOPMENT APPLICATION UNDER THE *INTEGRATED PLANNING ACT 1997*

DEVELOPMENT APPLICATION BY CO-YOU AUSTRALIA PTY LTD – CURRUMBIN CREEK ROAD, HOFFSCHILDT DRIVE AND PIGGABEEN ROAD, CURRUMBIN

CALLED IN BY THE MINISTER FOR LOCAL GOVERNMENT, PLANNING AND SPORT, THE HONOURABLE ANDREW FRASER MP, ON 19 SEPTEMBER 2006

AND

DECIDED BY THE MINISTER FOR LOCAL GOVERNMENT, PLANNING AND SPORT, THE HONOURABLE ANDREW FRASER MP, ON 27 NOVEMBER 2006

THIS REPORT HAS BEEN PREPARED PURSUANT TO SECTION 3.6.9 OF THE *INTEGRATED PLANNING ACT 1997*

REPORT ABOUT MINISTER'S DECISION ON THE CALL IN
OF A DEVELOPMENT APPLICATION
UNDER THE *INTEGRATED PLANNING ACT 1997*

DEVELOPMENT APPLICATION BY CO-YOU PTY LTD –

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REPORT ABOUT MINISTER'S DECISION ON THE CALL IN OF A DEVELOPMENT APPLICATION UNDER THE *INTEGRATED PLANNING ACT 1997*

1.0 PURPOSE

In accordance with section 3.6.9 of the *Integrated Planning Act 1997* (IPA), if a development application is called in under section 3.6.5 of the IPA, I must prepare a report about the decision made on that call in and cause a copy of that report to be tabled in the Legislative Assembly within 14 sitting days after the decision is made.

This is a report about the decision I as Minister for Local Government, Planning and Sport, made on 27 November 2006 in respect of the call in of a development application lodged by Co-You Australia Pty Ltd.

2.0 DEVELOPMENT APPLICATION

Applicant:	Co-You Australia Pty Ltd
Subject Site:	Lot 247 on RP 854934, Lot 1 on RP 854934 and Lot 2 on RP 168012, County of Ward, Parish of Tallebudgera
Location:	Currumbin Creek Road, Hoffschildt Drive and Piggabeen Road, Currumbin, City of Gold Coast.
Proposed Use:	Residential community consisting of 530 dwellings and an artificial lake system
Application Type:	Development Permit for Reconfiguration of a Lot in Stages and Preliminary Approval for Operational Works (Road layout and Gradient, Water and Sewerage Infrastructure)
Local Government Area:	Gold Coast City Council
Original Assessment Manager:	Gold Coast City Council
Original Lodgement Date:	30 April 2004
Original Assessment Manager's Decision:	Application approved subject to conditions - 6 March 2006 (Decision Notice) - 8 August 2006 (Negotiated Decision Notice)

A copy of the development application lodged by Co-You Australia Pty Ltd and the material that accompanied the development application is **Annexure A** to this report.

3.0 NOTICE OF CALL IN

On 19 September 2006, I called in the development application lodged by Co-You Australia Pty Ltd. A copy of the 'notice of call in' that was given pursuant to section 3.6.6 of the IPA is **Annexure B** to this report.

4.0 REFERRAL AGENCY RESPONSES

Pursuant to the IPA and the *Integrated Planning Regulation 1998*, the Department of Main Roads (DMR) and the Environmental Protection Agency (EPA) were concurrence agencies for this application. Pursuant to section 3.6.7(1)(d) of the IPA, once I called in the application, the DMR and EPA were taken to be advice agencies until I give a decision notice.

The Department of Natural Resources and Water (DNRW) was an advice agency. Copies of the responses from the DMR, EPA and DNRW are at **Annexure C** to this report.

5.0 SUBMISSIONS

As the proposed development is code assessable, no public notification of the development application was required and no properly made submissions were received.

6.0 DECISION NOTICE

On 27 November 2006, I decided to approve the application with conditions. A copy of my decision notice dated 27 November 2006 is **Annexure D** to this report.

7.0 REASONS FOR THE DECISION

I have provided a statement of the reasons for the making of this decision. The statement of reasons for my decision is **Annexure E** to this report.

Andrew Fraser MP
Minister for Local Government, Planning and Sport

Annexure A

Copy of Development Application

30 June 2004
Mr Chris Netherway
Implementation & Assessment Branch, Nerang
(07) 5582-8657
Devine_CurrumbinDAL07
PN174588/23/DA2

Co-You Australia Pty Ltd
C/- Brannock & Associates Planning and Environment Consultants
GPO Box 552
BRISBANE QLD 4001

Dear Sir

ACKNOWLEDGMENT NOTICE TO APPLICANT

Council acknowledges receipt of the Development Application lodged by:-

Co-You Australia Pty Ltd
C/- Brannock & Associates Planning and Environment Consultants
GPO Box 552
BRISBANE QLD 4001

In relation to development of land / premises described as:-

Currumbin Creek Road, Piggabeen Road and Hoffshildt Drive, Currumbin
Lot 247 on RP 854934, Lot 1 on RP 854934 and Lot 2 on RP 168012

The Development Application seeks approval for the following aspects of development:-

1. Development Permit for reconfiguring a lot in stages;
2. Preliminary Approval for carrying out building work (building height) which is deemed to also include an application for a material change of use (impact assessment) pursuant to section 3.2.2 of the *Integrated Planning Act 1997*;
3. Preliminary Approval for operational work (road layout and gradient);
4. Preliminary Approval for operational work (water and sewerage infrastructure);
5. Preliminary Approval for operational work (vegetation clearing).

You are advised that the Referral Agencies for this Development Application are:

1. Queensland Department of Main Roads will be a Concurrence Agency. The contact details are:

   The Department of Main Roads
   South Coast Hinterland District
   PO Box 442
   Nerang QLD 4211

2. The Department of Natural Resources, Mines and Energy will be an Advice Agency with respect to acid sulfate soils. The contact details are:

   Queensland Department of Natural Resources and Mines - Ipswich Office
   Attention: Andrew MacPherson (Senior Officer Planning and Environment)
   PO Box 864
   IPSWICH QLD 4305

The applicant is required to give each Referral Agency:

(a) a copy of the application; and

(b) a copy of the acknowledgment notice; and

(c) the fee prescribed under a regulation.

It is the applicant's responsibility to provide Council written notification of the date the applicant gave the referral agency the information mentioned above.

Referral Co-ordination will be required.

Referral coordination is required because the application is for the reconfiguration of a lot that is wholly or partly in, contains or shares a common boundary with or is within 100m of the boundary of an area mentioned in schedule 7, part 3 (section 12(1)(b)(iii) of the *Integrated Planning Regulation 1998)*, namely:

'An area or permanent, periodic or intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt (including areas of marine water the dept of which is not more than 6m at low tide that-

(a) ...

(b) plays an important ecological or hydrological role in the natural functioning of a major wetland system or complex;

(c) is important as the habitat for terrestrial and aquatic animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions, such as drought prevail;

(d) ...

(e) supports native terrestrial and aquatic animal or plant taxa, or communities, that are endangered or vulnerable at the bioregional level.'

The Applicant is required to give the Chief Executive Officer, Queensland Department of Communication & Information, Local Government & Planning:-

(a) a copy of the application; and

(b) a copy of the acknowledgment notice; and

(c) the fee prescribed under a regulation.

It is the Applicant's responsibility to provide Council written notification of the date the Applicant provided the above information to the Chief Executive Officer, Queensland Department of Communication & Information, Local Government & Planning.

The aspects of the development that require code assessment are:

1. Development Permit for reconfiguring a lot in stages;
2. Preliminary Approval for operational work (road layout and gradient);
3. Preliminary Approval for operational work (water and sewerage infrastructure);
4. Preliminary Approval for operational work (vegetation clearing).

The aspect of the development that requires impact assessment is:

1. Preliminary Approval for carrying out building work (building height) which is deemed to also include an application for a material change of use pursuant to section 3.2.2 of the *Integrated Planning Act 1997.*

The Applicant is advised that Public Notification will be required in accordance with Part 4 - Division 2 of the *Integrated Planning Act 1997.*

The Council reference number for the purposes of the Public Notification is PN174588/23/DA2.

An Information Request will be made by Council as the Assessment Manager.

The Applicant will be advised of details of the Information Request by separate correspondence.

The development application is a development application (superseded planning scheme) to carry out development under a superseded planning scheme.

The Applicant has requested the following aspects of the application to be assessed under the superseded planning scheme:

1. Development Permit for reconfiguring a lot in stages;
2. Preliminary Approval for carrying out building work (building height) which is deemed to also include an application for a material change of use (impact assessment) pursuant to section 3.2.2 of the Integrated Planning Act 1997;
3. Preliminary Approval for operational work (road layout and gradient);
4. Preliminary Approval for operational work (water and sewerage infrastructure);
5. Preliminary Approval for operational work (vegetation clearing).

The Applicant is advised that the following aspects of the application will be assessed under the superseded planning scheme:

1. Development Permit for reconfiguring a lot in stages;
2. Preliminary Approval for carrying out building work (building height) which is deemed to also include an application for a material change of use (impact assessment) pursuant to section 3.2.2 of the *Integrated Planning Act 1997;*
3. Preliminary Approval for operational work (road layout and gradient);
4. Preliminary Approval for operational work (water and sewerage infrastructure).

The Applicant is advised that the following aspects of the application will be assessed under the existing planning scheme:

1. Preliminary Approval for operational work (vegetation clearing).

The applicable codes for the code assessable aspect of the development that will be assessed under the existing planning scheme are:

(a) the Rural Domain place code;

(b) the Nature Conservation constraint code;

(c) the Natural Wetland Areas and Natural Waterways constraint code;

(d) the Vegetation Management specific development code.

Should you wish to clarify any issues contained in the above letter please do not hesitate to contact Chris Netherway on telephone number (07) 5582-8657.

Yours faithfully

for Matthew Hulse
MANAGER
IMPLEMENTATION & ASSESSMENT BRANCH

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

ATTACHMENT 1

Complete if this application involves ***assessment against the***

Superseded Planning Scheme

The completion of Form 1 Attachment 1 is *mandatory* for applications for assessment of a proposal against a superseded planning scheme or to notify the assessment manager of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme.

Nature of the application

(a) This form is required to be accompanied by Form 1 Part A and any other applicable Part (depending on the nature of the proposal) and the Checklist for determining referrals if applicable.

(b) This form is required to be accompanied by Form 1 Part A only.

A development application (superseded planning scheme) is: an application made only to a local government as an assessment manager in which the applicant requests the application be assessed under a superseded planning scheme.

The local government has discretion to agree or not agree with the request. The local government must advise in the acknowledgment notice whether the application will be assessed under the superseded planning scheme (as requested) or the existing planning scheme.

An application for a development application to be assessed against a superseded planning scheme must be made within 2 years from the day the superseded planning scheme became superseded.

1. This application:

☒ (a) Requests that the proposal be assessed against the provisions of a superseded planning scheme ***(Complete Part A and other applicable Parts of the form)***

OR

☐ (b) Notifies of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme ***(Complete Part A only. No other part of the form is required to be completed in this instance)***

2. Provide details of the superseded planning scheme:

Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages; and

Development Application Superseded Planning Scheme – Application for Preliminary Approval for Building Works (Building Height).; and

Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

The above Superseded Planning Scheme Applications are made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for

"(b) ... a development application - .

(i) in which the applicant asks the assessment manager to assess the application under a superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(3) of the IPA;

IDAS Form A relates to each of the above components. IDAS Form E relates to the Preliminary Approval Operational Works Components. IDAS Form F relates to the Reconfiguration component. There is no additional form for the Preliminary Approval Building Works (Building Height) component.

Details of the Applications are contained in the Gold Coast Golf Resort Currumbin Volumes 1-5, the Advanced Concept Plan and the proposed staged subdivision plans.

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

PART A

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Common details for all applications

The completion of all the questions below (other those indicated as "If applicable" or "Optional") is mandatory for all IDAS applications.
Any information requested on this form may be provided in an attachment to the application.
For further information about completing the follc details refer to **Guide 1 *Making an IDA*** ...lic available from the IPA website at www.i... ...d.gc

1. Description of land

The description must identify all land subject of the application including land/easements over which access is to be obtained.

The lot & plan details (eg. SP/RP) are shown on title documents or a rates notice.

If the plan is not registered by title, provide previous lot and plan details.

Street address *(include no., street, suburb / locality & postcode)*

Currumbin Creek Road, Piggabeen Road and Hoffshildt Drive, Currumbin

Parish of Tallebudgera and County of Ward Postcode 4223

Lot & plan details *(Attach list if necessary)*

Lot 247 on RP 854934, Lot 1 on RP 854934 and Lot 2 on RP 168012

Shop / tenancy no. *(If applicable)*	Storey / level *(If applicable)*	Total area of land *(m²/ ha)*
N/A	N/A	148.047 hectares

In which local government area is the land situated?

Gold Coast City

2. Proposal

Provide details of the proposal *(eg. new house/apartment building etc, demolition /removal of a house, extension to existing shop, new carport etc).*

Details of the existing use of the land *(Attach proposal report if necessary)*

Rural, with grazing use

Details of the proposal *(Attach proposal report if necessary)*

Golf Resort and Residential Community - refer to the Gold Coast Golf Resort Currumbin application material including Volumes 1-5, Advanced Concept Plan and the staged reconfiguration plans

3. Other parts of the form completed

Complete all other parts of the form applicable to your application.

What other parts of the form are attached *(E.g.* **Part B** *if the application involves assessment against the Building Act,* **Part D** *if the application involves assessment against the planning scheme for material change of use,* **Part F** *if the application involves reconfiguring a lot)*

Part E, Part F , Part J, Form 1 Attachment 1 (Superseded Planning Scheme) Application, Referral Checklist

4. Applicant details

Clearly identify who is making the application. The applicant need not be the owner of the land.

In signing and lodging this application, the applicant is responsible for ensuring the information provided is true. The assessment manager, any referral agency and the Chief Executive (where applicable) will rely on this information when assessing the application.

If the applicant is a company, a contact person must be shown.

All correspondence will be mailed to this address.

Name

Co-You Australia Pty Ltd - refer to attached letter of Applicant and Owner Consent

Signature Date

Contact person

c/o Brannock & Associates Planning and Environment Consultants

Phone no.

3229 5322

Mobile no.	Fax no.	Email address
N/A	3229 5488	khruza@brannock.com.au

Postal address

GPO Box 552

Brisbane QLD Postcode 4001

5. Consent of land owner/s

Completion of Question 5 is only required if the applicant is not the owner or the person authorised to sign as owner.

Completion of Question 5 provides the owner's consent to the lodgement of this application. If there are multiple owners, the consent of each owner is required. If the owner is a company refer to Guide 1.

Where the provision of contact details is mandatory, an owner nominated under "Contact details" will receive a copy of the decision notice and approved plans.

Name/s *(In full) (Attach list if necessary)*

Refer to attached letter of Applicant and Owner Consent

Signature/s *(Or if a company, the ACN plus signature/s or company seal & signatures)* Date

Contact details *(Optional, except where Part B of this form applies for single detached class 1a buildings or class 10 buildi structures)*

Name	
Postal address	

OFFICE USE ONLY *(applicable to assessment manager, alternative assessment manager and private certifier)*

FEE ($)	DATE RECEIVED		RECEIVING OFFICER'S NAME/S		REFERENCE NUMBER/S	

CO-YOU AUSTRALIA Pty. Ltd. (A.C.N. 011 018 465)
Po&12 Commodore Drive, Paradise Waters, Queensland 4217
P.O. BOX 7221 Gold Coast Mail Centre
Tel: (61) 75-91 8811 Fax: (61) 75-91 8812

28st April 2004

The Chief Executive Officer
Gold Coast City Council
Gold Coast City Administration Centre
Nerang-Southport Road
NERANG QLD 4211

Re: **MAKING OF DEVELOPMENT APPLICATIONS RELATING TO LAND AT CURRUMBIN CREEK ROAD AND PIGGABEEN ROAD, CURRUMBIN – SIGNATURE OF APPLICANT AND CONSENT OF OWNER**

The following Development Applications are made by Co-You Australia Pty Ltd (ACN 011 018 465) as Applicant of the below Development Applications and the Owner of land situated at Currumbin Creek Road and Piggabeen Road, Currumbin, described as:

- Lot 247 on RP 854934
- Lot 1 on RP 854934
- Lot 2 on RP 168012

All in the Parish of Tallebudgera and County of Ward.

The Applicant provides its signature to and the Owner consents to the following Development Applications being made to the Gold Coast City Council:

1. Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme;

2. Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages;

3. Development Application Superseded Planning Scheme – Preliminary Approval for Building Works (Building Height); and

4. Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:

   (i) Tree Clearing;
   (ii) Road layout and gradient;
   (iii) Water and Sewerage Infrastructure.

This letter constitutes the making of the above Development Applications by the Applicant.

GIVEN UNDER THE COMMON SEAL of Co-You Australia Pty. Ltd. A.C.N. 011 018 465 by authority of a resolution of the Board of Directors under the hands of:-

T. Murakami

Satoshi Yamauchi

CO-YOU AUSTRALIA PTY LTD ACN 011 018 465 The Common Seal

MPL/717050

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

PART E

Complete if this application involves ***assessment against the***

Planning Scheme Works

Other than involving material change of use of premises

Completion of all questions on Part E of this form is *mandatory* for approval of any works required under the Planning Scheme including:

Detailed engineering plans and other plans **requiring approval under the planning scheme**[1];

Detailed engineering plans for subdivisional works;

Conceptual design plans for engineering work and building work **requiring approval under the planning scheme**[2] when the application does not involve assessment of a material change of use of premises.

Nature of the work

A development permit authorises development to occur, while a preliminary approval is a step in the approval process and does not authorise development to occur.

1. This application is for: *(Tick one or both if applicable)*
   - ☒ Preliminary approval
   - **AND / OR**
   - ☐ Development permit
2. If both of the above boxes are ticked, provide details below

3. Are the works subsequent to a previous development approval?
   - ☒ NO
   - ☐ YES Provide previous file reference: Refer to Volume 1 of the Application

Referral triggers

This application may trigger referral to an IDAS referral agency. These questions help identify whether referral is required.

4. Does the application trigger referral to an IDAS referral agency? *(Tick applicable box) (Use the Referrals Checklist to determine any possible referrals for this application).*
   - ☐ NO
   - ☒ YES ***If yes, attach Referrals Checklist***

Details of the work

The type of work which is assessable against the planning scheme is determined by the scheme for a particular local government and will vary across the State. These works may include roadworks, stormwater, water and sewerage infrastructure, etc.

To determine the types of work which are assessable under a particular planning scheme, contact the relevant local government. The local government may have information sheets available which list the assessable works under their planning scheme.

5. Describe the nature and extent of works proposed:

Preliminary Approval for Operational Works being:

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

Refer to the Gold Coast Golf Resort Currumbin Volumes 1-5

Plans and documents

6. Is the application accompanied by: *(Tick applicable box/es)*
   - ☒ Plans
   - ☒ Proposal Report
   - ☐ Other *(Specify)*

This application cannot be accepted by the assessment manager unless accompanied by Part A of the Development Application

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

[1] This form is not mandatory for non-IDAS approvals such as engineering and other works plans required to be submitted and approved to comply with specific conditions of development approvals.

[2] If the application also seeks planning scheme approval for the change of use of the premises, Part D may be used instead for both the conceptual works design and the change of use. If the application also seeks development approval of building works assessed under the Building Act, Part B must be used together with this form.

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

PART F

Complete if this application involves

Reconfiguring a Lot

Completion of all questions on Part F of this form is *mandatory* for all applications for reconfiguring a lot including conceptual design for any associated works that require approval under the planning scheme.

Nature of the reconfiguration

A development permit authorises development to occur, while a preliminary approval is a step in the approval process and does not authorise development to occur.

Reconfiguring a lot includes freehold subdivision, community title subdivision, subdivision by lease, realignment of boundaries, creation of an access easement, etc.

1. This application is for *(Tick one or both if applicable)*:
   ☐ Preliminary approval ☒ Development permit
2. If both of the above boxes are ticked *(ie. a staged subdivision)* provide details *(E.g. stage 1 – development permit and stages 2, 3 & 4 – preliminary approval) (Provide details in Proposal Report if insufficient room)*
3. What is the nature of the reconfiguration? *(Eg. subdivision, subdivision by lease, realignment of a boundary)*
   Staged Subdivision as shown on the PMM subdivision drawings

Referral triggers

This application may trigger referral to an IDAS referral agency. These questions help identify whether referral is required.

Referral coordination occurs - when an application involves 3 or more concurrence agencies; or under transitional arrangements.

Referral coordination is further explained in the Referrals Checklist.

4. Does the application trigger referral to an IDAS referral agency? *(Tick applicable box) (Use the Referrals Checklist to determine any possible referrals for this application).*
   ☐ NO ☒ YES ***If yes, attach Referrals Checklist***
5. Does the application trigger referral coordination? *(Tick applicable box) (Use the Referrals Checklist to determine if this application triggers referral coordination).*
   ☐ NO ☒ YES ***If yes, attach Referrals Checklist***

Details of the land

Completion of questions 6 and 7 will assist in the identification of referral agencies and / or is requested for statistical and planning purposes.

6. Number of existing lots: 3
7. Total area of land in application *(If staged, total area of the land in stage)*? 148.047 hectares
8. How is the subject land identified in the planning scheme? *(Name the zone, precinct etc.)*
   Rural Domain
9. What is the current use of the land? *(If vacant, also identify the previous use)*
   Rural, including grazing use
10. Provide details of any existing structures / buildings on the land
    The land is currently improved with dwellings, sheds, fences and associated rural infrastructure
11. Provide details of existing services *(Eg. water & sewerage) (Attach plan identifying location if appropriate)*
    water, sewerage, electricity and telecommunication services are available in the locality and can be provided to the site
12. Are there any existing easements over the land? *(Tick applicable box)*
    ☒ NO ☐ YES Attach plan identifying easement location & purpose

Proposal details

Completion of questions 13 to 16 will assist in the identification of referral agencies and / or is requested for statistical and planning purposes.

13. Number of proposed lots: Staged Subdivision and group title develoment - refer to PMM staged reconfiguration plans
14. Number of additional **residential** lots proposed in development permit: Total of 9 community title residential lots and 34 freehold lots (Refer to staged subdivision plans)
15. If the application is for a stage or stages of an overall subdivision proposal, provide details of estate name & stage number below
    The development is known as the Gold Coast Golf Resort Currumbin
16. Total area of land in the development permit (minus any balance area)?: 148.047 (including area of park)
17. Area of land to be contributed for community purposes: A public park of about 24 hectares is proposed
18. Length of new road to be constructed: About 9,080m of internal private road will be created

Plans and documents

19. Is the application accompanied by: *(Tick applicable box/es)*
    ☒ Plans ☒ Proposal Report
    ☐ Other *(Specify)*

This application cannot be accepted by the assessment manager unless accompanied by Part A of the Development Application

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBERS	

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

PART J

Complete if this application involves ***assessment under the***

Vegetation Management Act

For operational work for assessable clearing of native vegetation on freehold land

Completion of all questions on Part J of this form is mandatory for all applications assessed under *the Vegetation Management Act 1999* (VMA) involving operational work for assessable clearing of native vegetation on freehold land.

Nature of the application

Regional ecosystem maps are prepared under the *Vegetation Management Act 1999* (VMA) and are available at local offices of the Department of Natural Resources and Mines.

Clearing of native vegetation outside those areas identified in Question 1, Part J of this form is not assessable development under the VMA.

Certain clearing of native vegetation is exempt development under Schedule 8, Part 1 item 3A of the IPA. Exempt development includes, for example, clearing to the extent necessary to build a single residence and any reasonable associated building or structure and clearing that is for essential management.

Part J of this form does not apply to an application for the clearing of vegetation assessed under a planning scheme or local law.

1. This application is for the clearing of native vegetation on freehold land which is shown on a regional ecosystem map as: *(Tick if applicable)* —

   ☒ Remnant vegetation

   ☐ Within an area of high nature conservation value declared under the VMA

   ☐ Within an area vulnerable to land degradation declared under the VMA

2. Does Schedule 8, Part 1 item 3A of the *Integrated Planning Act 1997* (IPA) exempt the proposed clearing from a development application?

   ☐ NO *This application is to be accompanied by a Property Vegetation Management Plan*

   ☒ YES *An application for clearing of native vegetation is **not** required*

* An exemption applies under section 74(b) of the Vegetation Management Act as site was included in a Special Facilities Zone

Property Vegetation Management Plan

The PVMP is to refer to the vegetation identified in Question 1, Part J of this form.

3. **Property Vegetation Management Plan**

A Property Vegetation Management Plan (PVMP) must accompany applications for assessable clearing of native vegetation on freehold land.

The PVMP is required to address the following matters: *(Tick if provided)* —

☐ The location and extent of the area proposed to be cleared, by reference to easily identifiable fixed points

☐ A description of the vegetation proposed to be cleared

☐ The location, extent and description of any existing land degradation on the property

☐ The action proposed to be taken to prevent the proposed clearing contributing to land degradation, in the area mentioned in point one above, during and after the clearing

☐ The location, extent and description of any remnant vegetation remaining on the property after the proposed clearing

☐ Any proposed rehabilitation or restoration of vegetation on the property

The Property Vegetation Management plan may also include any other information the applicant considers will assist in the assessment of the application.

Documentation requirements

4. Is a Property Vegetation Management Plan attached to this application?

   ☐ NO *(This application cannot be accepted unless accompanied by a Property Vegetation Management Plan)*

   ☐ **YES**

This application cannot be accepted by the assessment manager unless accompanied by Part A of the Development Application

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

REFERRALS CHECKLIS

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Checklist for determining referrals under IDAS

Complete this checklist if you have completed parts C, D, E, F, G, H, I, K, L or M of Form 1 Development Application.

It is the responsibility of the applicant to work with the assessment manager to identify if an application involves—

- referral to a referral agency for their assessment and determination, or comment;
- the coordination of any information request through the referral coordination process.

This checklist contains a number of questions to aid in this determina

If your application **does** involve referral, the assessment manager w.. nfir in the acknowledgement notice the referral actions required.

To assist you in answering the questions below a series of guides a available. These guides are detailed below and are available from loc governments or on the IPA website at www.ipa.qld.gov.au

State-controlled roads matters

Applications involving material change of use or operational works *(for filling or excavation not associated with a material change of use, reconfiguring a lot or building work)*, assessable under the local government's planning scheme and/or reconfiguring a lot, may trigger this referral.

Guide 3 *Does my application trigger a referral in relation to State-controlled road matters?* will assist in answering this question.

1. Does the application trigger referral to the Department of Main Roads (DMR) in relation to a **State-controlled road**?

☐ NO ☒ YES - *detail the trigger/s below. (If trigger E is identified, also detail the threshold).*

Trigger A - direct access to a State Controlled Road (Currumbin Creek Road) and Trigger E - Reconfiguring a Lot for residential use involving more than 201 dwellings (Advice Agency)

Environmentally relevant activities

Guide 4 *Does my application involve an Environmentally Relevant Activity (ERA)?* will assist in answering this question.

2. Does the application involve assessment of a material change of use for an **Environmentally Relevant Activity**?

☒ NO ☐ YES - *provide all relevant details on Part G of Form 1 Development Application.*

Contaminated land matters

Applications involving material change of use assessable under the local government's planning scheme and/or reconfiguring a lot may trigger this referral.

Guide 5 *Does my application trigger referral for consideration of contaminated land matters?* will assist in answering this question.

3. Does the application trigger referral to the Environmental Protection Agency (EPA) for consideration of **contaminated land** matters?

☒ NO ☐ YES – *provide details of the matters below.*

Refer to attached copies of searces

Strategic port land

All applications for a material change of use on strategic port land that is inconsistent with the approved land use plan trigger referral to the Minister for Transport.

4. Does the application trigger referral to the Minister for Transport in relation to **development on strateg port land that is inconsistent with the approved land use plan**?

☒ NO ☐ YES - *provide all relevant details on Part I of Form 1 Development Application.*

Vegetation clearing made assessable under schedule 8 of the IPA

Guide 12 *Does my application involve vegetation clearing assessable under Schedule 8 of IPA?* will assist in answering this question.

5. Does the application involve assessment by the Department of Natural Resources and Mines (NR&M) operational work for **the clearing of native vegetation on freehold land assessable under Schedul of IPA**?

☒ NO ☐ YES - *provide all relevant details on Part J of Form 1 Development Application.*

Acid sulfate soils matters

Guide 10 *Does my application trigger referral for acid sulfate soils?* will assist in answering this question.

6. Does the application trigger referral to the Department of Natural Resources and Mines (NR&M) in rela to **acid sulfate soils**?

☐ NO ☒ YES

Taking or interfering with water

Guide 13 *Does my application trigger referral in relation to development in a declared catchment area?* will assist in answering this question.

7. Does the application trigger referral to the Department of Natural Resources and Mines (NR&M rel to development in a **declared catchment area** under the *Water Act 2000*?

☒ NO ☐ YES

Guide 14 *Does my application involve assessment of a referable dam?* will assist in answering this question.	8. Does the application involve assessment by the Department of Natural Resources and Mines (NR& M) of operational work for a **referable dam** under the *Water Act 2000*? ☒ NO ☐ YES - *provide all relevant details on Part K₅ of Form 1 Development Application.*
Guide 15 *Does my application involve assessment of a water related development?* will assist in answering this question.	9. Does the application involve assessment by the Department of Natural Resources and Mines (NR&M) of operational work **to take or interfere with water** under the *Water Act 2000*? ☒ NO ☐ YES - *provide all relevant details on the applicable Part K of Form 1 Development Application.*
Guide 16 *Does my application involve the removal of quarry material from a watercourse?* will assist in answering this and other questions relating to development approval of riverine quarry material operations.	10. Does the application trigger referral to the Department of Natural Resources and Mines (NR&M) in relation to the **removal of quarry material from a watercourse** under an allocation notice given under the *Water Act 2000*? ☒ NO ☐ YES - *provide all relevant details on the applicable Part K₇ of Form 1 Development Application.*
	Major hazard facilities
Guide 17 *Does my application involve a material change of use for a Major Hazard Facility or Possible Major Hazard Facility?* will assist in answering this question.	11. Does the application involve assessment by the Department of Emergency Services (DES) for material change of use for a **major hazard facility or possible major hazard facility** as defined under the *Dangerous Goods Safety Management Act 2000*? ☒ NO ☐ YES - *provide all relevant details on Part L of Form 1 Development Application.*
	Coastal management matters
Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.	12. Does the application trigger referral to the Environmental Protection Agency (EPA) for a **material change of use** completely or partly within a coastal management district and assessable under a planning scheme; **reconfiguring a lot** completely or partly within a coastal management district or in connection with the construction of a canal; or **building work** completely or partly seaward of a coastal building line as defined under the *Coastal Protection and Management Act 1995*. ☒ NO ☐ YES – *provide details of the proposed development below.*
Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.	13. Does the application involve assessment by the Environmental Protection Agency (EPA) for operational work **in a tidal area or coastal management district** as defined under the *Coastal Protection and Management Act 1995*? ☒ NO ☐ YES – *provide all relevant details of Part M of Form 1 Development Application.*
Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.	14. Does the application trigger referral to the Port Authority for the land in relation to **development below high water mark and within the limits of a port** as defined under the *Transport Infrastructure Act 1994*? ☒ NO ☐ YES – *provide details of the proposed development below.*
Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.	15. Does the application trigger referral to Queensland Transport, Maritime Safety Queensland in relation to operational work that is **tidal work**; **disposing of dredge spoil or other solid material** in tidal water; **reclaiming land** under tidal water; or **constructing a canal** if the canal is associated with reconfiguring a lot? ☒ NO ☐ YES – *provide details of the proposed development below.*
	Heritage registered place
Guide 19 *Does my application involve assessment of development in a heritage registered place?* will assist in answering this question.	16. Does the application involve assessment by the Heritage Council for development **in a heritage registered place** as defined under the *Queensland Heritage Act 1992*? ☒ NO ☐ YES – *provide all relevant details of Part C of Form 1 Development Application.*

Referral coordination

Guide 6 *Does my application trigger the referral coordination process?* will assist in answering this question.	17. Does the application trigger **referral coordination** because the application involves **3 or more concurrence agencies**? ☒ NO ☐ YES
Applications involving material change of use assessable under the local government's planning scheme and/or reconfiguring a lot may trigger this referral. Guide 6 *Does my application trigger the referral coordination process?* will assist in answering this question.	18. Does the application trigger referral coordination because the application involves **a facility or area prescribed under schedule 6 or 7 of the *Integrated Planning Regulation 1998***? ☒ NO ☐ YES - *detail the trigger below*

Referral response under section 3.3.2 of the IPA

Referral agency responses prior to lodgement Under s 3.3.2 of IPA a referral agency may give a referral agency response on a matter within its jurisdiction about a proposal before an application for the proposal is made to the assessment manager.	19. Did a referral agency give a referral agency **response under s 3.3.2 of IPA** before the application was made to the assessment manager? ☒ NO ☐ YES - *attach a copy of the referral agency/s response/s*

Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Level 16, 288 Edward St • Brisbane, Queensland • GPO Box 2771 • QLD 4001 • AUSTRALIA
Telephone (07) 32251827 • Facsimile (07) 3247 3278 • www.env.qld.gov.au/environment/business/contaminated

SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 571753 Site ID: 06 October 2003
Cheque Number: -
Client Reference: Christelle Thresher;#2509180;John Hodgkinson

DEACONS SOLICITORS
GPO BOX 407
BRISBANE QLD 4001

This response relates to a search request received for the site:

Lot: 247 Plan: RP854934
75 AND 107 PIGGABEEN ROAD
CURRUMBIN WATERS 4223

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

If you have any queries in relation to this search please phone (07) 3227 7370.

Tess Dobinson
Acting Registrar, Contaminated Land Unit

Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Level 16, 288 Edward St · Brisbane, Queensland · GPO Box 2771 · QLD 4001 ·AUSTRALIA
Telephone (07) 32251827 · Facsimile (07) 3247 3278 · www.env.qld.gov.au/environment/business/contaminated

SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 571746 Site ID: 06 October 2003
Cheque Number: -
Client Reference: Christelle Thresher:#2509180:John Hodgkinson

DEACONS SOLICITORS
GPO BOX 407
BRISBANE QLD 4001

This response relates to a search request received for the site:

Lot: 2 Plan: RP168012
107 PIGGABEEN ROAD
CURRUMBIN WATERS 4223

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

If you have any queries in relation to this search please phone (07) 3227 7370.

Tess Dobinson
Acting Registrar, Contaminated Land Unit

Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Level 16, 288 Edward St • Brisbane, Queensland • GPO Box 2771 • QLD 4001 -AUSTRALIA
Telephone (07) 32251827 • Facsimile (07) 3247 3278 • www.env.qld.gov.au/environment/business/contaminated

SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 571749 Site ID: 06 October 2003
Cheque Number: -
Client Reference: Christelle Thresher:#2509180:John Hodgkinson

DEACONS SOLICITORS
GPO BOX 407
BRISBANE QLD 4001

This response relates to a search request received for the site:

Lot: 1 Plan: RP854934
75 AND 107 PIGGABEEN ROAD
CURRUMBIN WATERS 4223

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

If you have any queries in relation to this search please phone (07) 3227 7370.

Tess Dobinson
Acting Registrar, Contaminated Land Unit

Brannock & Associates PTY LTD
PLANNING AND ENVIRONMENT CONSULTANTS

Director: John Brannock
MURP MSc BSurv FPIA FEIA MRAIPR FAICD
Adjunct Professor, University of Queensland

Level 20, T & G Building
141 Queen Street Brisbane
GPO Box 552 Brisbane Qld 4001
Email: brannock@gil.com.au
Ph (07) 3229 5322 Fax (07) 3229 5488
ABN 64 853 471 204 ACN 081 303 111

30 April 2004

OUR REF: Devine_CurrumbinDAL07

The Chief Executive Officer
Gold Coast City Council
Nerang Administration Centre
Nerang Southport Road
NERANG QLD 4211

Attention: **Ian Glew**
Manager Planning Development and Transport

RE: SUPERSEDED PLANNING SCHEME APPLICATIONS: GOLD COAST GOLF RESORT, CURRUMBIN.

The enclosed Superseded Planning Scheme Applications are made by Co-You Australia Pty Ltd with respect to land situated on Currumbin Creek Road, Currumbin.

APPLICATIONS BEING MADE

There are two different types of Superseded Planning Scheme applications being made and the entire documentation is relevant to both types of applications. Specifically, application is being made for the following:

1. **Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme.**

This Application is made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

> *"(a) development that would not have required a development permit under a superseded planning scheme but requires a development permit under the planning scheme in force at the time the application is made, a development application –*
>
> *(i) in which the applicant advises that the applicant proposes to carry out development under the superseded planning scheme",*

An Acknowledgment Notice should issue under Section 3.2.5(1) of the IPA;

2. **Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages**; and

3. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Building Works (Building Height)**; and

4. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:**

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

The Applications identified in 2-4 above are made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

"(b) ... a development application - .

(i) in which the applicant asks the assessment manager to assess the application under a superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(3) of the IPA.

IDAS APPLICATION FORMS

There are two sets of IDAS application forms as there are two different Superseded Planning Scheme Applications being made.

In relation to the Superseded Planning Scheme Application notifying of the intention to carry out a use – IDAS Form 1 Attachment 1 and Form A are enclosed.

In relation to the other Superseded Planning Scheme applications, Form 1 Attachment 1, and Forms A, E, F, J and the Referrals Checklist are enclosed.

APPLICATION DOCUMENTATION

Eight copies of the application documentation have been lodged as requested by Council.

The following documentation forms part of the applications:

Volume 1: Executive Summary and Town Planning Report

Volume 2: Site Planning and Design Guidelines Report (ML Design)

Volume 3: Visual Analysis and Landscape Intent Report (Yurrah Landscape Solutions)

Volume 4: Technical Studies:

- Ecological Assessment (Planit Consulting);
- Infrastructure Services Report (Weathered Howe);
- Geotechnical Report (Coffey Geosciences);
- Road Impact Assessment Report (Connell Wagner).

Volume 5: Site Based Management Plan

- includes Bushfire Risk Assessment and Mitigation Plan, and the Stormwater Management Strategy

The following drawings are also enclosed and form part of the application material, and eight copies of these are provided at full size and A3

- Advanced Concept Plan – prepared by ML Design;
- Proposed Staged Subdivision – Principal Layout Plan (prepared by PMM);
- Proposed Staged Subdivision – Residential Community Title Plan (prepared by PMM);
- Proposed Staged Subdivision – Ridge Line Housing Precinct (prepared by PMM);
- Proposed Precinct Plan (prepared by PMM) (please note that this plan is only provided at A3 size).

A cheque for $16,423 is enclosed being payment of Council's application fees. A schedule of the fee calculated is attached.

Brannock & Associates act on behalf of the applicant in relation to this matter. Please contact Kerri Hruza on 3229 5322 should you have any enquiries.

Yours Faithfully
BRANNOCK & ASSOCIATES

KERRI HRUZA
Associate

CALCULATION OF APPLICATION FEES

Based on a review of Council's current fee schedule and discussions with Council, the following is a summary of how the Applicant has calculated the application fees.

Superseded Planning Scheme Application - Notifying of Intention to Carry Out Development:	
▪ Fee for Superseded Scheme Application	**$655**
▪ Fee for request to determine plan of development is generally in accordance with an approved plan of development	**$273**
Superseded Planning Scheme Application – Other Development:	
▪ Fee for Superseded Scheme Application	**$655**
1. Development Permit for Reconfiguration	
▪ Fee for staged subdivision plan	**$549**
▪ Fee for management lots/community title lots/freehold lots - There are 9 residential community title lots, 34 freehold lots, a golf course lot, a hotel lot and a park lot – total of 46 lots	$280/lot $280 x 46 lots = **$12,880**
2. Preliminary Approval for Building Works (Building Height)	
▪ There does not appear to be a separate fee for this component	
3. Preliminary Approval for Operational Works	
(a) Tree clearing	**$330**
(b) road gradient and layout (fee for change of level to set road level)	**$532**
(c) water and sewerage infrastructure (external)	**$549**
TOTAL FEES	**$16,423**

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

ATTACHMENT 1

Complete if this application involves ***assessment against the***

Superseded Planning Scheme

The completion of Form 1 Attachment 1 is *mandatory* for applications for assessment of a proposal against a superseded planning scheme or to notify the assessment manager of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme.

Nature of the application

(a) This form is required to be accompanied by Form 1 Part A and any other applicable Part (depending on the nature of the proposal) and the Checklist for determining referrals if applicable.

(b) This form is required to be accompanied by Form 1 Part A only.

A development application (superseded planning scheme) is: an application made only to a local government as an assessment manager in which the applicant requests the application be assessed under a superseded planning scheme.

The local government has discretion to agree or not agree with the request. The local government must advise in the acknowledgment notice whether the application will be assessed under the superseded planning scheme (as requested) or the existing planning scheme.

An application for a development application to be assessed against a superseded planning scheme must be made within 2 years from the day the superseded planning scheme became superseded.

1. This application:

☐ (a) Requests that the proposal be assessed against the provisions of a superseded planning scheme ***(Complete Part A and other applicable Parts of the form)***

OR

☒ (b) Notifies of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme ***(Complete Part A only. No other part of the form is required to be completed in this instance)***

2. Provide details of the superseded planning scheme:

Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme

This Application is made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

"(a) development that would not have required a development permit under a superseded planning scheme but requires a development permit under the planning scheme in force at the time the application is made, a development application –

(i) in which the applicant advises that the applicant proposes to carry out development under the superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(1) of the IPA;

IDAS Form Part A relates to this Superseded Planning Scheme Application.

This Superseded Planning Scheme application relates to the use of the site as shown on the Advanced Concept Plan (based on Hulbert Group 10.11.89 Plan).

Details of the Applications are contained in the Gold Coast Golf Resort Currumbin Volumes 1-5, the Advanced Concept Plan and the proposed staged subdivision plans.

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

PART A

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Common details for all applications

The completion of all the questions below (other than those indicated as "If applicable" or "Optional") is mandatory for all IDAS applications.
Any information requested on this form may be provided in an attachment to the application.
For further information about completing the following details refer to Guide 1 *Making an IDAS Application* available from the IPA website at www.ipa.qld.gov.au.

1. Description of land

The description must identify all land subject of the application including land/easements over which access is to be obtained.

The lot & plan details (eg. SP/RP) are shown on title documents or a rates notice.

If the plan is not registered by title, provide previous lot and plan details.

Street address *(Include no., street, suburb / locality & postcode)*

Currumbin Creek Road, Piggabeen Road and Hoffshildt Drive, Currumbin

Parish of Tallebudgera and County of Ward Postcode 4223

Lot & plan details *(Attach list if necessary)*

Lot 247 on RP 854934, Lot 1 on RP 854934 and Lot 2 on RP 168012

Shop / tenancy no. *(If applicable)*	Storey / level *(If applicable)*	Total area of land *(m² / ha)*
N/A	N/A	148.047 hectares

In which local government area is the land situated?

Gold Coast City

2. Proposal

Provide details of the proposal *(eg. new house/apartment building etc, demolition /removal of a house, extension to existing shop, new carport etc).*

Details of the existing use of the land *(Attach proposal report if necessary)*

Rural, with grazing use

Details of the proposal *(Attach proposal report if necessary)*

Golf Resort and Residential Community - refer to the Gold Coast Golf Resort Currumbin application material including Volumes 1-5, Advanced Concept Plan and the staged reconfiguration plans

3. Other parts of the form completed

Complete all other parts of the form applicable to your application.

What other parts of the form are attached *(E.g. Part B if the application involves assessment against the Building Act, Part D if the application involves assessment against the planning scheme for material change of use, Part F if the application involves reconfiguring a lot)*

Form 1 Attachment 1 (Superseded Planning Scheme) Application

4. Applicant details

Clearly identify who is making the application. The applicant need not be the owner of the land.

In signing and lodging this application, the applicant is responsible for ensuring the information provided is true. The assessment manager, any referral agency and the Chief Executive (where applicable) will rely on this information when assessing the application.

If the applicant is a company, a contact person must be shown.

All correspondence will be mailed to this address.

Name

Co-You Australia Pty Ltd - refer to attached letter of Applicant and Owner Consent

Signature | Date

Contact person | Phone no.

c/o Brannock & Associates Planning and Environment Consultants | 3229 5322

Mobile no.	Fax no.	Email address
N/A	3229 5488	khruza@brannock.com.au

Postal address

GPO Box 552

Brisbane QLD Postcode 4001

5. Consent of land owner/s

Completion of Question 5 is only required if the applicant is not the owner or the person authorised to sign as owner.

Completion of Question 5 provides the owner's consent to the lodgement of this application. If there are multiple owners, the consent of each owner is required. If the owner is a company refer to Guide 1.

Where the provision of contact details is mandatory, an owner nominated under "Contact details" will receive a copy of the decision notice and approved plans.

Name/s *(In full) (Attach list if necessary)*

Refer to attached letter of Applicant and Owner Consent

Signature/s *(Or if a company, the ACN plus signature/s or company seal & signatures)* | Date

Contact details *(Optional, except where Part B of this form applies for single detached class 1a buildings or class 10 buildings or structures)*

Name	
Postal address	

OFFICE USE ONLY *(applicable to assessment manager, alternative assessment manager and private certifier)*

FEE ($)	DATE RECEIVED		RECEIVING OFFICER'S NAME/S		REFERENCE NUMBER/S	

Notification of Engagement of Private Certifier ***(Optional format for private certifiers)***

To: _____ Council, I have been engaged as a private certifier for the building work referred to in this application.

Date of engagement: / / Accreditation Number: _____

Name: _____ Signature: _____

CO-YOU AUSTRALIA Pty. Ltd. (A.C.N :011018465)
Lot 3 Commodore Drive, Paradise Waters, Queensland 4217
P.O.BOX 7[illegible] Gold Coast Mail Centre.
Tel: (61)75-91 8811 Fax:(61)75-91 8812

28st April 2004

The Chief Executive Officer
Gold Coast City Council
Gold Coast City Administration Centre
Nerang-Southport Road
NERANG QLD 4211

Re: MAKING OF DEVELOPMENT APPLICATIONS RELATING TO LAND AT CURRUMBIN CREEK ROAD AND PIGGABEEN ROAD, CURRUMBIN – SIGNATURE OF APPLICANT AND CONSENT OF OWNER

The following Development Applications are made by Co-You Australia Pty Ltd (ACN 011 018 465) as Applicant of the below Development Applications and the Owner of land situated at Currumbin Creek Road and Piggabeen Road, Currumbin, described as:

- Lot 247 on RP 854934
- Lot 1 on RP 854934
- Lot 2 on RP 168012

All in the Parish of Tallebudgera and County of Ward.

The Applicant provides its signature to and the Owner consents to the following Development Applications being made to the Gold Coast City Council:

1. Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme;

2. Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages;

3. Development Application Superseded Planning Scheme – Preliminary Approval for Building Works (Building Height); and

4. Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:

   (i) Tree Clearing;
   (ii) Road layout and gradient;
   (iii) Water and Sewerage Infrastructure.

This letter constitutes the making of the above Development Applications by the Applicant.

GIVEN UNDER THE COMMON SEAL of Co-You Australia Pty. Ltd. A.C.N. 011 018 465 by authority of a resolution of the Board of Directors under the hands of:-

T. Murakami

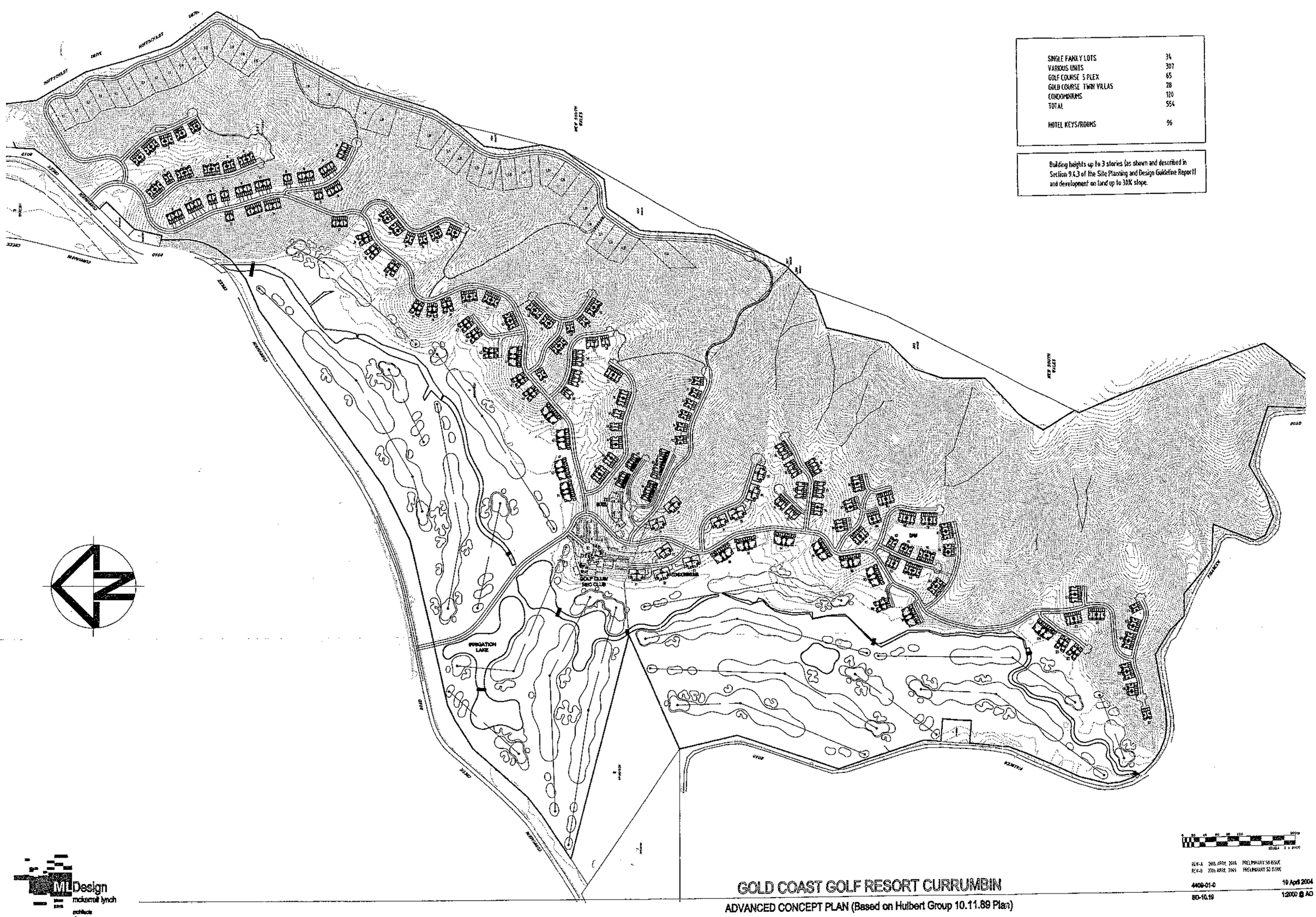
Satoshi Yamada

CO-YOU AUSTRALIA PTY LTD (ACN 011 018 465) The Common Seal

WPL/717050[illegible]

SINGLE FAMILY LOTS	34
VARIOUS UNITS	307
GOLF COURSE 5 PLEX	65
GOLD COURSE TWN VILLAS	28
CONDOMINIUMS	120
TOTAL	554
HOTEL KEYS/ROOMS	96

Building heights up to 3 stories (as shown and described in Section 9.4.3 of the Site Planning and Design Guideline Report) and development on land up to 30% slope.



ML Design
mckerrell lynch
architects
planners
interior designers

REV-A 26th APRIL 2004 PRELIMINARY SD ISSUE
REV-B 27th APRIL 2004 PRELIMINARY SD ISSUE

4409-01-0 | 19 April 2004
SD-10.19 | 1:2000 @ A0

GOLD COAST GOLF RESORT CURRUMBIN

ADVANCED CONCEPT PLAN (Based on Hulbert Group 10.11.89 Plan)

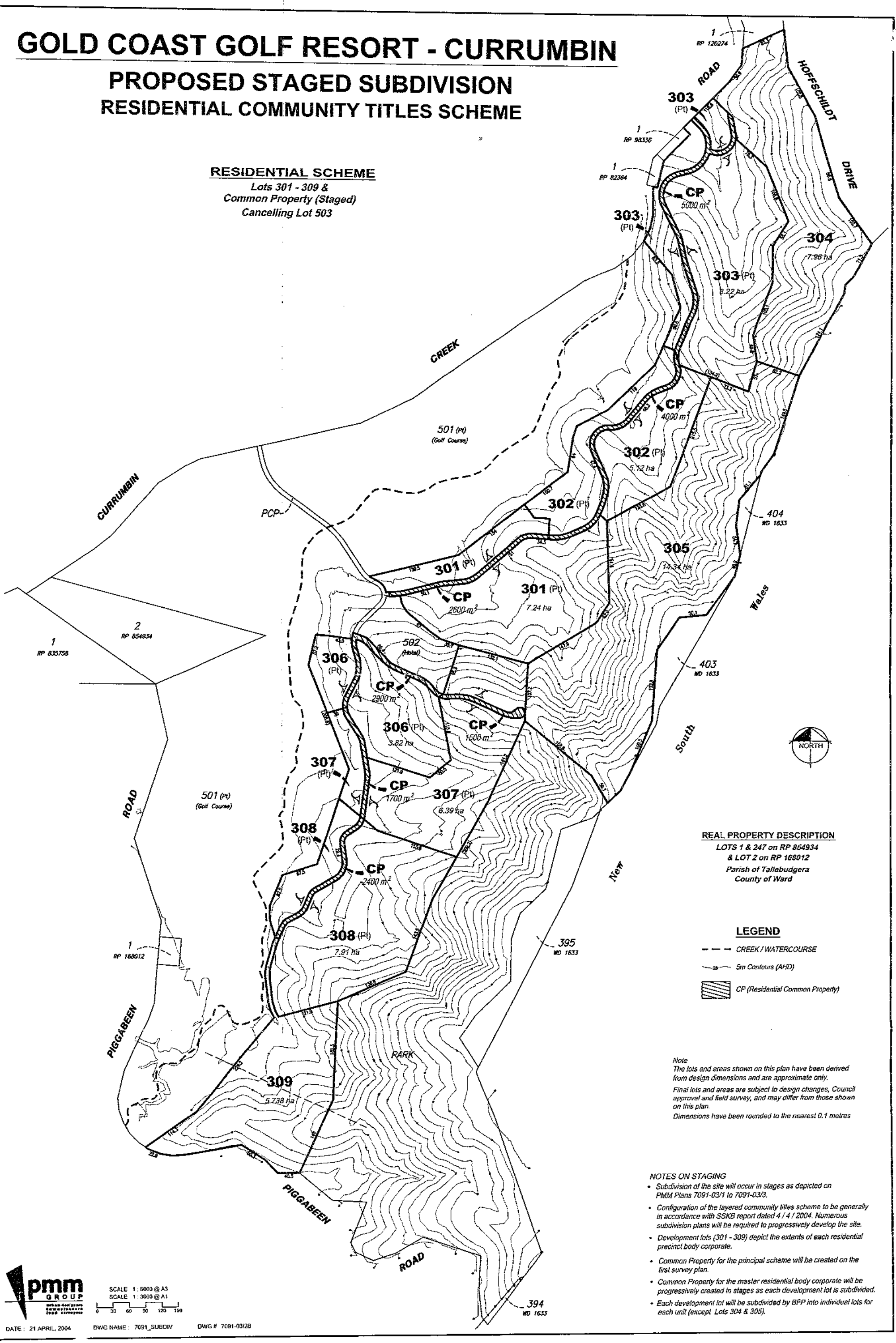
GOLD COAST GOLF RESORT - CURRUMBIN

PROPOSED STAGED SUBDIVISION

RESIDENTIAL COMMUNITY TITLES SCHEME

RESIDENTIAL SCHEME

Lots 301 - 309 &
Common Property (Staged)
Cancelling Lot 503



REAL PROPERTY DESCRIPTION

LOTS 1 & 247 on RP 864934
& LOT 2 on RP 168012
Parish of Tallebudgera
County of Ward

LEGEND

- *CREEK / WATERCOURSE*
- *5m Contours (AHD)*
- *CP (Residential Common Property)*

Note
The lots and areas shown on this plan have been derived from design dimensions and are approximate only.

Final lots and areas are subject to design changes, Council approval and field survey, and may differ from those shown on this plan.

Dimensions have been rounded to the nearest 0.1 metres

NOTES ON STAGING

- *Subdivision of the site will occur in stages as depicted on PMM Plans 7091-03/1 to 7091-03/3.*
- *Configuration of the layered community titles scheme to be generally in accordance with SSKB report dated 4 / 4 / 2004. Numerous subdivision plans will be required to progressively develop the site.*
- *Development lots (301 - 309) depict the extents of each residential precinct body corporate.*
- *Common Property for the principal scheme will be created on the first survey plan.*
- *Common Property for the master residential body corporate will be progressively created in stages as each development lot is subdivided.*
- *Each development lot will be subdivided by BFP into individual lots for each unit (except Lots 304 & 305).*

pmm GROUP

SCALE 1 : 6000 @ A3
SCALE 1 : 3000 @ A1
0 30 60 90 120 150

DATE : 21 APRIL, 2004 DWG NAME : 7091_SUBDIV DWG # 7091-03/28

GOLD COAST GOLF RESORT - CURRUMBIN

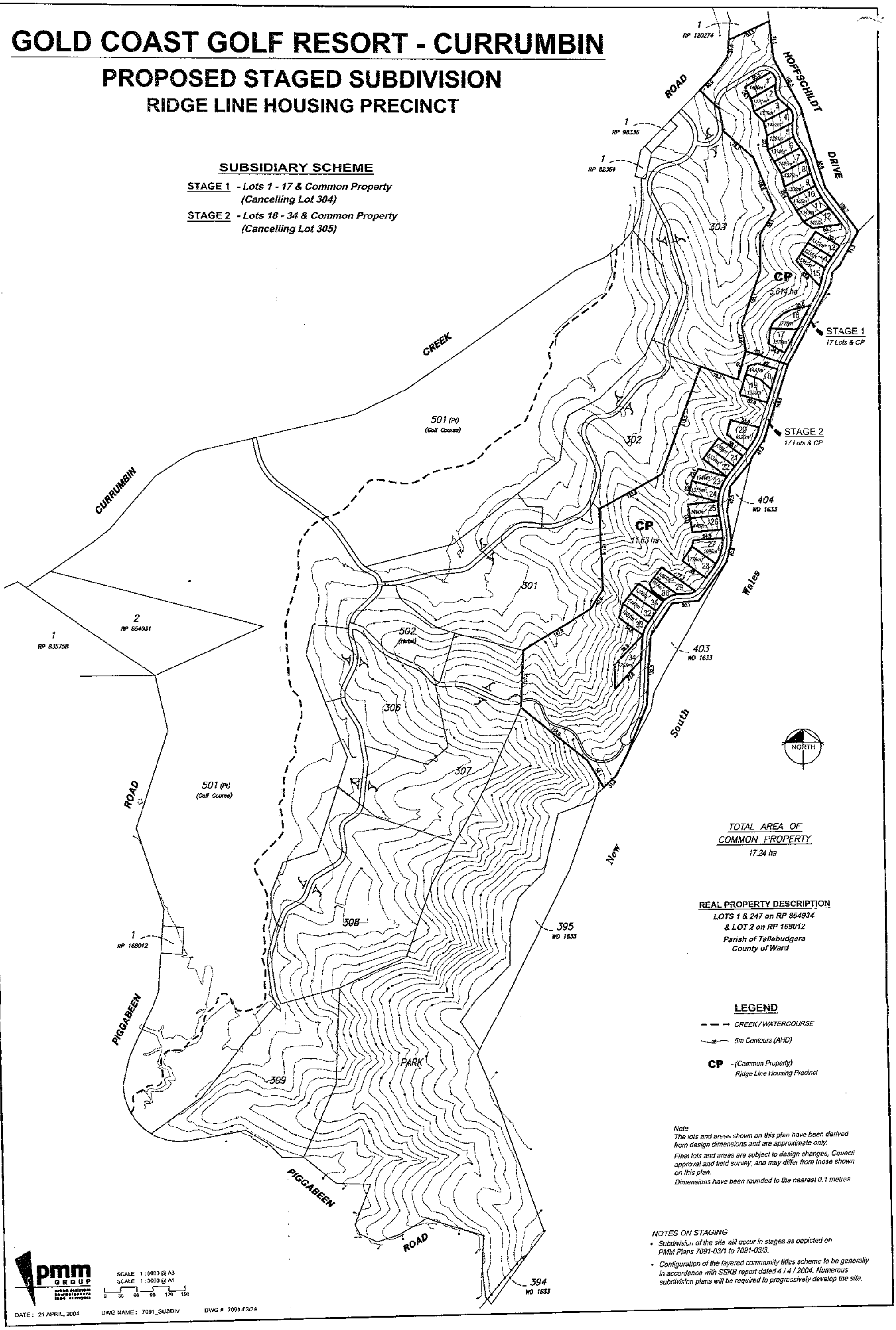
PROPOSED STAGED SUBDIVISION

RIDGE LINE HOUSING PRECINCT

SUBSIDIARY SCHEME

STAGE 1 - *Lots 1 - 17 & Common Property (Cancelling Lot 304)*

STAGE 2 - *Lots 18 - 34 & Common Property (Cancelling Lot 305)*



TOTAL AREA OF COMMON PROPERTY
17.24 ha

REAL PROPERTY DESCRIPTION

LOTS 1 & 247 on RP 854934
& LOT 2 on RP 168012
Parish of Tallebudgera
County of Ward

LEGEND

- *CREEK / WATERCOURSE*
- *5m Contours (AHD)*
- **CP** - *(Common Property) Ridge Line Housing Precinct*

Note
The lots and areas shown on this plan have been derived from design dimensions and are approximate only.
Final lots and areas are subject to design changes, Council approval and field survey, and may differ from those shown on this plan.
Dimensions have been rounded to the nearest 0.1 metres

NOTES ON STAGING

- *Subdivision of the site will occur in stages as depicted on PMM Plans 7091-03/1 to 7091-03/3.*
- *Configuration of the layered community titles scheme to be generally in accordance with SSKB report dated 4 / 4 / 2004. Numerous subdivision plans will be required to progressively develop the site.*

pmm GROUP
urban designers
town planners
land surveyors

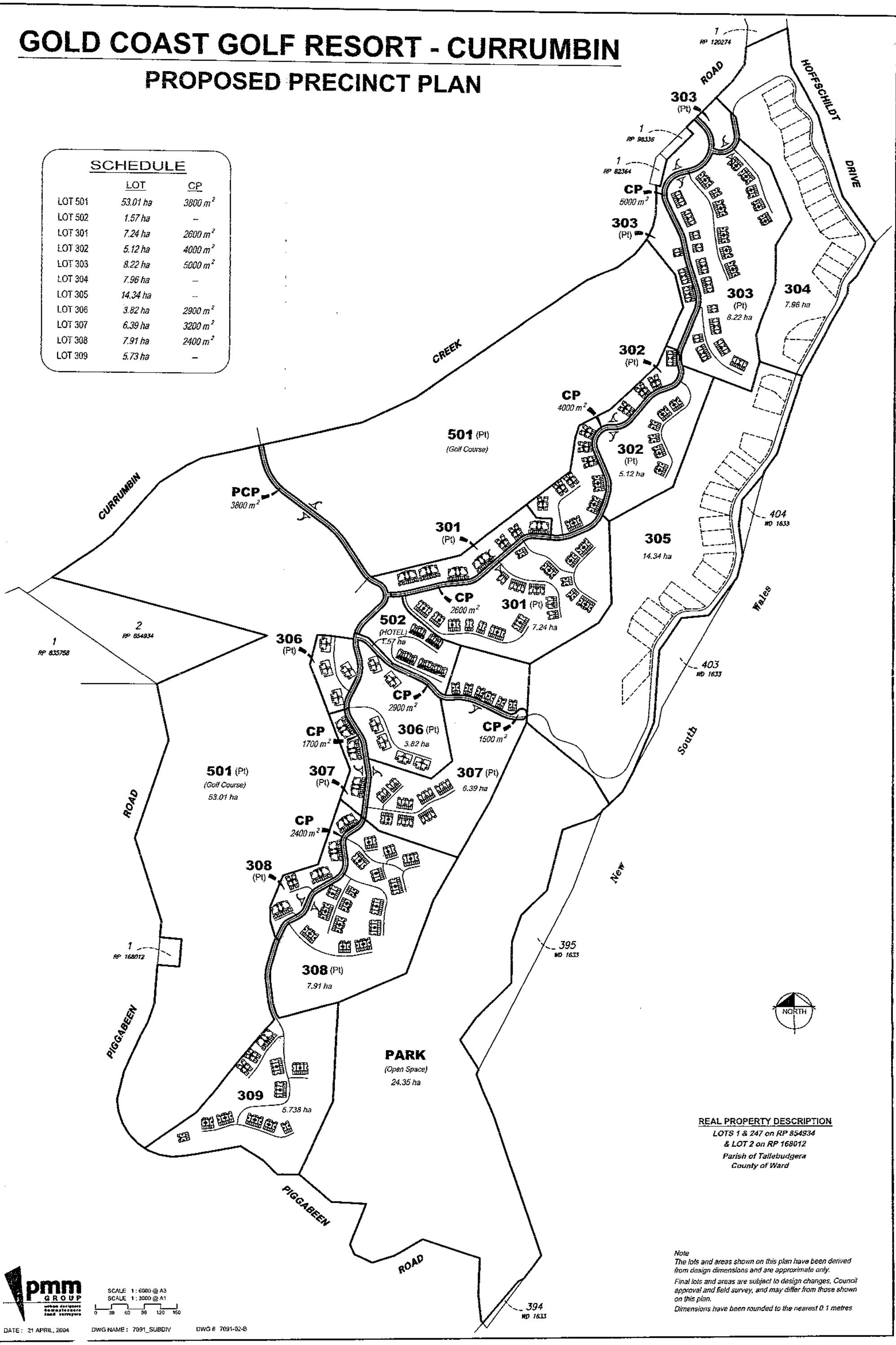
SCALE 1 : 6000 @ A3
SCALE 1 : 3000 @ A1
0 30 60 90 120 150

DATE : 21 APRIL, 2004 DWG NAME : 7091_SUBDIV DWG # 7091-03/3A

GOLD COAST GOLF RESORT - CURRUMBIN

PROPOSED PRECINCT PLAN

SCHEDULE	LOT	CP
LOT 501	53.01 ha	3800 m²
LOT 502	1.57 ha	–
LOT 301	7.24 ha	2600 m²
LOT 302	5.12 ha	4000 m²
LOT 303	8.22 ha	5000 m²
LOT 304	7.96 ha	–
LOT 305	14.34 ha	–
LOT 306	3.82 ha	2900 m²
LOT 307	6.39 ha	3200 m²
LOT 308	7.91 ha	2400 m²
LOT 309	5.73 ha	–



REAL PROPERTY DESCRIPTION

LOTS 1 & 247 on RP 854934
& LOT 2 on RP 168012
Parish of Tallebudgera
County of Ward

Note
The lots and areas shown on this plan have been derived from design dimensions and are approximate only.
Final lots and areas are subject to design changes, Council approval and field survey, and may differ from those shown on this plan.
Dimensions have been rounded to the nearest 0.1 metres

pmm GROUP
urban designers town planners land surveyors

SCALE 1 : 6000 @ A3
SCALE 1 : 3000 @ A1
0 30 60 90 120 150

DATE : 21 APRIL, 2004 DWG NAME : 7091_SUBDIV DWG # 7091-02-B

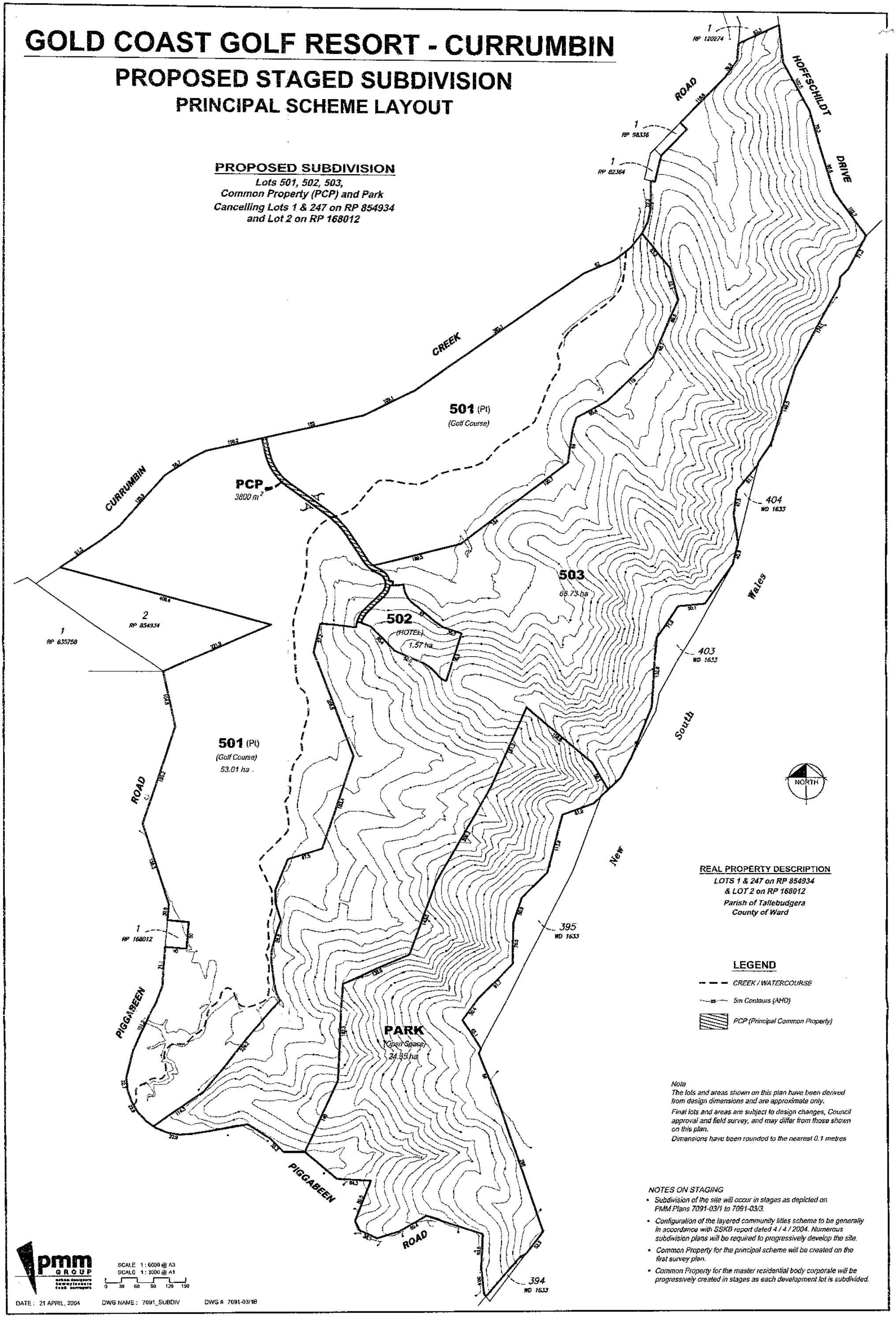
GOLD COAST GOLF RESORT - CURRUMBIN

PROPOSED STAGED SUBDIVISION

PRINCIPAL SCHEME LAYOUT

PROPOSED SUBDIVISION

Lots 501, 502, 503,
Common Property (PCP) and Park
Cancelling Lots 1 & 247 on RP 854934
and Lot 2 on RP 168012



REAL PROPERTY DESCRIPTION

LOTS 1 & 247 on RP 854934
& LOT 2 on RP 168012
Parish of Tallebudgera
County of Ward

LEGEND

- *CREEK / WATERCOURSE*
- *5m Contours (AHD)*
- *PCP (Principal Common Property)*

Note
The lots and areas shown on this plan have been derived from design dimensions and are approximate only.

Final lots and areas are subject to design changes, Council approval and field survey, and may differ from those shown on this plan.

Dimensions have been rounded to the nearest 0.1 metres

NOTES ON STAGING

- *Subdivision of the site will occur in stages as depicted on PMM Plans 7091-03/1 to 7091-03/3.*
- *Configuration of the layered community titles scheme to be generally in accordance with SSKB report dated 4 / 4 / 2004. Numerous subdivision plans will be required to progressively develop the site.*
- *Common Property for the principal scheme will be created on the first survey plan.*
- *Common Property for the master residential body corporate will be progressively created in stages as each development lot is subdivided.*

pmm GROUP
urban designers
surveyors
town planners

SCALE 1 : 6000 @ A3
SCALE 1 : 3000 @ A1
0 30 60 90 120 150

DATE : 21 APRIL, 2004 DWG NAME : 7091_SUBDIV DWG # 7091-03/1B

Brannock & Associates PTY LTD
PLANNING AND ENVIRONMENT CONSULTANTS

Director: John Brannock
MURP MSc BSurv FPIA FEIA MRAIPR FAICD
Adjunct Professor, University of Queensland

Level 20, T & G Building
141 Queen Street Brisbane
GPO Box 552 Brisbane Qld 4001
Email: brannock@gil.com.au
Ph (07) 3229 5322 Fax (07) 3229 5488
ABN 64 853 471 204 ACN 081 303 111

30 April 2004

OUR REF: Devine_CurrumbinDAL07

Attach. Type / Doc Name
A.O.
File No.
Received at Records Services 30 APR 2004 AM/PM
Refer S.N. Major Corresp. Vital Record
External Ref. Security
Add Instruction
Retention

The Chief Executive Officer
Gold Coast City Council
Nerang Administration Centre
Nerang Southport Road
NERANG QLD 4211

Attention: **Ian Glew**
Manager Planning Development and Transport

RE: SUPERSEDED PLANNING SCHEME APPLICATIONS: GOLD COAST GOLF RESORT, CURRUMBIN.

The enclosed Superseded Planning Scheme Applications are made by Co-You Australia Pty Ltd with respect to land situated on Currumbin Creek Road, Currumbin.

APPLICATIONS BEING MADE

There are two different types of Superseded Planning Scheme applications being made and the entire documentation is relevant to both types of applications. Specifically, application is being made for the following:

1. **Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme.**

This Application is made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

> *"(a) development that would not have required a development permit under a superseded planning scheme but requires a development permit under the planning scheme in force at the time the application is made, a development application –*
>
> *(i) in which the applicant advises that the applicant proposes to carry out development under the superseded planning scheme",*

An Acknowledgment Notice should issue under Section 3.2.5(1) of the IPA;

2. **Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages**; and

3. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Building Works (Building Height)**; and

GCCC-IMU
686339

4. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:**

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

The Applications identified in 2-4 above are made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

"(b) ... a development application - .

(i) in which the applicant asks the assessment manager to assess the application under a superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(3) of the IPA.

IDAS APPLICATION FORMS

There are two sets of IDAS application forms as there are two different Superseded Planning Scheme Applications being made.

In relation to the Superseded Planning Scheme Application notifying of the intention to carry out a use – IDAS Form 1 Attachment 1 and Form A are enclosed.

In relation to the other Superseded Planning Scheme applications, Form 1 Attachment 1, and Forms A, E, F, J and the Referrals Checklist are enclosed.

APPLICATION DOCUMENTATION

Eight copies of the application documentation have been lodged as requested by Council.

The following documentation forms part of the applications:

Volume 1: Executive Summary and Town Planning Report

Volume 2: Site Planning and Design Guidelines Report (ML Design)

Volume 3: Visual Analysis and Landscape Intent Report (Yurrah Landscape Solutions)

Volume 4: Technical Studies:

- Ecological Assessment (Planit Consulting);
- Infrastructure Services Report (Weathered Howe);
- Geotechnical Report (Coffey Geosciences);
- Road Impact Assessment Report (Connell Wagner).

Volume 5: Site Based Management Plan

- includes Bushfire Risk Assessment and Mitigation Plan, and the Stormwater Management Strategy

The following drawings are also enclosed and form part of the application material, and eight copies of these are provided at full size and A3

- Advanced Concept Plan – prepared by ML Design;
- Proposed Staged Subdivision – Principal Layout Plan (prepared by PMM);
- Proposed Staged Subdivision – Residential Community Title Plan (prepared by PMM);
- Proposed Staged Subdivision – Ridge Line Housing Precinct (prepared by PMM);
- Proposed Precinct Plan (prepared by PMM) (please note that this plan is only provided at A3 size).

A cheque for $16,423 is enclosed being payment of Council's application fees. A schedule of the fee calculated is attached.

Brannock & Associates act on behalf of the applicant in relation to this matter. Please contact Kerri Hruza on 3229 5322 should you have any enquiries.

Yours Faithfully
BRANNOCK & ASSOCIATES

KERRI HRUZA
Associate

CALCULATION OF APPLICATION FEES

Based on a review of Council's current fee schedule and discussions with Council, the following is a summary of how the Applicant has calculated the application fees.

Superseded Planning Scheme Application - Notifying of Intention to Carry Out Development:	
▪ Fee for Superseded Scheme Application	**$655** ✓
▪ Fee for request to determine plan of development is generally in accordance with an approved plan of development	**$273** ?
Superseded Planning Scheme Application – Other Development:	
▪ Fee for Superseded Scheme Application	**$655** ✓
1. Development Permit for Reconfiguration	
▪ Fee for staged subdivision plan	**$549** ✓
▪ Fee for management lots/community title lots/freehold lots - There are 9 residential community title lots, 34 freehold lots, a golf course lot, a hotel lot and a park lot – total of 46 lots	$280/lot $280 x 46 lots = **$12,880**
2. Preliminary Approval for Building Works (Building Height)	
▪ There does not appear to be a separate fee for this component	
3. Preliminary Approval for Operational Works	
(a) Tree clearing	**$330** ✓ ✓
(b) road gradient and layout (fee for change of level to set road level)	**$532** ✓ ✓
(c) water and sewerage infrastructure (external)	**$549** ✓
TOTAL FEES	**$16,423**

ATTACHMENT 1

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Complete if this application involves ***assessment against the***

Superseded Planning Scheme

The completion of Form 1 Attachment 1 is *mandatory* for applications for assessment of a proposal against a superseded planning scheme or to notify the assessment manager of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme.

Nature of the application

(a) This form is required to be accompanied by Form 1 Part A and any other applicable Part (depending on the nature of the proposal) and the Checklist for determining referrals if applicable.

(b) This form is required to be accompanied by Form 1 Part A only.

A development application (superseded planning scheme) is: an application made only to a local government as an assessment manager in which the applicant requests the application be assessed under a superseded planning scheme.

The local government has discretion to agree or not agree with the request. The local government must advise in the acknowledgment notice whether the application will be assessed under the superseded planning scheme (as requested) or the existing planning scheme.

An application for a development application to be assessed against a superseded planning scheme must be made within 2 years from the day the superseded planning scheme became superseded.

1. This application:

☐ (a) Requests that the proposal be assessed against the provisions of a superseded planning scheme ***(Complete Part A and other applicable Parts of the form)***

OR

☒ (b) Notifies of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme ***(Complete Part A only. No other part of the form is required to be completed in this instance)***

2. Provide details of the superseded planning scheme:

Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme

This Application is made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

"(a) development that would not have required a development permit under a superseded planning scheme but requires a development permit under the planning scheme in force at the time the application is made, a development application –

(i) in which the applicant advises that the applicant proposes to carry out development under the superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(1) of the IPA;

IDAS Form Part A relates to this Superseded Planning Scheme Application.

This Superseded Planning Scheme application relates to the use of the site as shown on the Advanced Concept Plan (based on Hulbert Group 10.11.89 Plan).

Details of the Applications are contained in the Gold Coast Golf Resort Currumbin Volumes 1-5, the Advanced Concept Plan and the proposed staged subdivision plans.

SUP: 24/000040.

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

PART A

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Common details for all applications

The completion of all the questions below (other than those indicated as "If applicable" or "Optional") is mandatory for all IDAS applications.
Any information requested on this form may be provided in an attachment to the application.
For further information about completing the following details refer to Guide 1 *Making an IDAS Applicatic* available from the IPA website at www.ipa.qld.gov.au.

1. Description of land

The description must identify all land subject of the application including land/easements over which access is to be obtained.

The lot & plan details (eg. SP/RP) are shown on title documents or a rates notice.

If the plan is not registered by title, provide previous lot and plan details.

Street address *(include no., street, suburb / locality & postcode)*

Currumbin Creek Road, Piggabeen Road and Hoffshildt Drive, Currumbin

Parish of Tallebudgera and County of Ward Postcode 4223

Lot & plan details *(Attach list if necessary)*

Lot 247 on RP 854934, Lot 1 on RP 854934 and Lot 2 on RP 168012

Shop / tenancy no. *(If applicable)*	Storey / level *(If applicable)*	Total area of land *(m²/ha)*
N/A	N/A	148.047 hectares

In which local government area is the land situated?

Gold Coast City

2. Proposal

Provide details of the proposal *(eg. new house/apartment building etc, demolition /removal of a house, extension to existing shop, new carport etc).*

Details of the existing use of the land *(Attach proposal report if necessary)*

Rural, with grazing use

Details of the proposal *(Attach proposal report if necessary)*

Golf Resort and Residential Community - refer to the Gold Coast Golf Resort Currumbin application material including Volumes 1-5, Advanced Concept Plan and the staged reconfiguration plans

3. Other parts of the form completed

Complete all other parts of the form applicable to your application.

What other parts of the form are attached *(E.g. Part B if the application involves assessment against the Building Act, Part D if the application involves assessment against the planning scheme for material change of use, Part F if the application involves reconfiguring a lot)*

Form 1 Attachment 1 (Superseded Planning Scheme) Application

4. Applicant details

Clearly identify who is making the application. The applicant need not be the owner of the land.

In signing and lodging this application, the applicant is responsible for ensuring the information provided is true. The assessment manager, any referral agency and the Chief Executive (where applicable) will rely on this information when assessing the application.

If the applicant is a company, a contact person must be shown.

All correspondence will be mailed to this address.

Name

Co-You Australia Pty Ltd - refer to attached letter of Applicant and Owner Consent

Signature Date

Contact person Phone no.

c/o Brannock & Associates Planning and Environment Consultants | 3229 5322

Mobile no.	Fax no.	Email address
N/A	3229 5488	khruza@brannock.com.au

Postal address

GPO Box 552

Brisbane QLD Postcode 4001

5. Consent of land owner/s

Completion of Question 5 is only required if the applicant is not the owner or the person authorised to sign as owner.

Completion of Question 5 provides the owner's consent to the lodgement of this application. If there are multiple owners, the consent of each owner is required. If the owner is a company refer to Guide 1.

Where the provision of contact details is mandatory, an owner nominated under "Contact details" will receive a copy of the decision notice and approved plans.

Name/s *(In full) (Attach list if necessary)*

Refer to attached letter of Applicant and Owner Consent

Signature/s *(Or if a company, the ACN plus signature/s or company seal & signatures)* Date

Contact details *(Optional, except where Part B of this form applies for single detached class 1a buildings or class 10 buildings or structures)*

Name	
Postal address	

OFFICE USE ONLY *(applicable to assessment manager, alternative assessment manager and private certifier)*

FEE ($)	DATE RECEIVED		RECEIVING OFFICER'S NAME/S		REFERENCE NUMBER/S	

CO-YOU AUSTRALIA Pty. Ltd. (A.C.N. 011018465)
Tel: 12 Commodore Drive, Paradise Waters, Queensland 4217
P.O. BOX 7227 Gold Coast Mail Centre.
Tel: (61) (7) 5571 4511 Fax: (61) (7) 5571 4812

28st April 2004

The Chief Executive Officer
Gold Coast City Council
Gold Coast City Administration Centre
Nerang-Southport Road
NERANG QLD 4211

Re: MAKING OF DEVELOPMENT APPLICATIONS RELATING TO LAND AT CURRUMBIN CREEK ROAD AND PIGGABEEN ROAD, CURRUMBIN – SIGNATURE OF APPLICANT AND CONSENT OF OWNER

The following Development Applications are made by Co-You Australia Pty Ltd (ACN 011 018 465) as Applicant of the below Development Applications and the Owner of land situated at Currumbin Creek Road and Piggabeen Road, Currumbin, described as:

- Lot 247 on RP 854934
- Lot 1 on RP 854934
- Lot 2 on RP 168012

All in the Parish of Tallebudgera and County of Ward.

The Applicant provides its signature to and the Owner consents to the following Development Applications being made to the Gold Coast City Council:

1. Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme;

2. Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages;

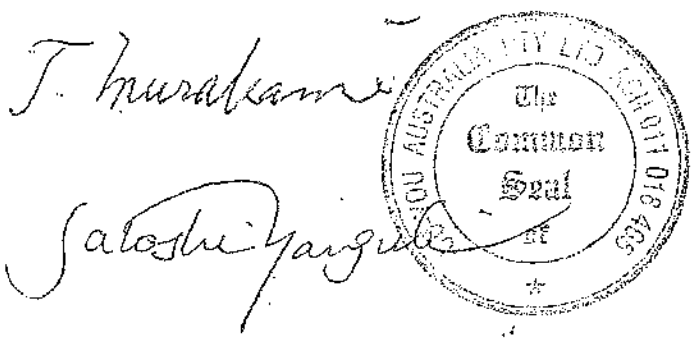
3. Development Application Superseded Planning Scheme – Preliminary Approval for Building Works (Building Height); and

4. Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:

   (i) Tree Clearing;
   (ii) Road layout and gradient;
   (iii) Water and Sewerage Infrastructure.

This letter constitutes the making of the above Development Applications by the Applicant.

GIVEN UNDER THE COMMON SEAL of Co-You Australia Pty. Ltd. A.C.N. 011 018 465 by authority of a resolution of the Board of Directors under the hands of:-



MPL/717050

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

ATTACHMENT 1

Complete if this application involves ***assessment against the***

Superseded Planning Scheme

The completion of Form 1 Attachment 1 is *mandatory* for applications for assessment of a proposal against a superseded planning scheme or to notify the assessment manager of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme.

Nature of the application

(a) This form is required to be accompanied by Form 1 Part A and any other applicable Part (depending on the nature of the proposal) and the Checklist for determining referrals if applicable.

(b) This form is required to be accompanied by Form 1 Part A only.

A development application (superseded planning scheme) is: an application made only to a local government as an assessment manager in which the applicant requests the application be assessed under a superseded planning scheme.

The local government has discretion to agree or not agree with the request. The local government must advise in the acknowledgment notice whether the application will be assessed under the superseded planning scheme (as requested) or the existing planning scheme.

An application for a development application to be assessed against a superseded planning scheme must be made within 2 years from the day the superseded planning scheme became superseded.

1. This application:

☒ (a) Requests that the proposal be assessed against the provisions of a superseded planning scheme ***(Complete Part A and other applicable Parts of the form)***

OR

☐ (b) Notifies of the intention to carry out development that would have been self-assessable or exempt under a superseded planning scheme ***(Complete Part A only. No other part of the form is required to be completed in this instance)***

2. Provide details of the superseded planning scheme:

Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages; and

Development Application Superseded Planning Scheme – Application for Preliminary Approval for Building Works (Building Height).; and

Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

The above Superseded Planning Scheme Applications are made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for

"(b) ... a development application - .

(i) in which the applicant asks the assessment manager to assess the application under a superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(3) of the IPA;

IDAS Form A relates to each of the above components. IDAS Form E relates to the Preliminary Approval Operational Works Components. IDAS Form F relates to the Reconfiguration component. There is no additional form for the Preliminary Approval Building Works (Building Height) component.

Details of the Applications are contained in the Gold Coast Golf Resort Currumbin Volumes 1-5, the Advanced Concept Plan and the proposed staged subdivision plans.

DA: 24/01188.

OPW: TCD 24/00~~555~~890

ENG 24/00889

ROL: 24/00~~590~~155

SUP: 24/00039.

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

PART A

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Common details for all applications

The completion of all the questions below (other than those indicated as "If applicable" or "Optional") is mandatory for all IDAS applications.
Any information requested on this form may be provided in an attachment to the application.
For further information about completing the following details refer to Guide 1 *Making an IDAS Application* available from the IPA website at www.ipa.qld.gov.au.

1. Description of land

The description must identify all land subject of the application including land/easements over which access is to be obtained.

The lot & plan details (eg. SP/RP) are shown on title documents or a rates notice.

If the plan is not registered by title, provide previous lot and plan details.

Street address *(Include no., street, suburb / locality & postcode)*

Currumbin Creek Road, Piggabeen Road and Hoffshildt Drive, Currumbin

Parish of Tallebudgera and County of Ward Postcode 4223

Lot & plan details *(Attach list if necessary)*

Lot 247 on RP 854934, Lot 1 on RP 854934 and Lot 2 on RP 168012

Shop / tenancy no. *(If applicable)*	Storey / level *(If applicable)*	Total area of land *(m² / ha)*
N/A	N/A	148.047 hectares

In which local government area is the land situated?

Gold Coast City

2. Proposal

Provide details of the proposal *(eg. new house/apartment building etc, demolition /removal of a house, extension to existing shop, new carport etc).*

Details of the existing use of the land *(Attach proposal report if necessary)*

Rural, with grazing use

Details of the proposal *(Attach proposal report if necessary)*

Golf Resort and Residential Community - refer to the Gold Coast Golf Resort Currumbin application material including Volumes 1-5, Advanced Concept Plan and the staged reconfiguration plans

3. Other parts of the form completed

Complete all other parts of the form applicable to your application.

What other parts of the form are attached *(E.g. Part B if the application involves assessment against the Building Act, Part D if the application involves assessment against the planning scheme for material change of use, Part F if the application involves reconfiguring a lot)*

Part E, Part F , Part J, Form 1 Attachment 1 (Superseded Planning Scheme) Application, Referral Checklist

4. Applicant details

Clearly identify who is making the application. The applicant need not be the owner of the land.

In signing and lodging this application, the applicant is responsible for ensuring the information provided is true. The assessment manager, any referral agency and the Chief Executive (where applicable) will rely on this information when assessing the application.

If the applicant is a company, a contact person must be shown.

All correspondence will be mailed to this address.

Name

Co-You Australia Pty Ltd - refer to attached letter of Applicant and Owner Consent

Signature | Date

Contact person

c/o Brannock & Associates Planning and Environment Consultants

Phone no.

3229 5322

Mobile no.	Fax no.	Email address
N/A	3229 5488	khruza@brannock.com.au

Postal address

GPO Box 552

Brisbane QLD Postcode 4001

5. Consent of land owner/s

Completion of Question 5 is only required if the applicant is not the owner or the person authorised to sign as owner.

Completion of Question 5 provides the owner's consent to the lodgement of this application. If there are multiple owners, the consent of each owner is required. If the owner is a company refer to Guide 1.

Where the provision of contact details is mandatory, an owner nominated under "Contact details" will receive a copy of the decision notice and approved plans.

Name/s *(In full) (Attach list if necessary)*

Refer to attached letter of Applicant and Owner Consent

Signature/s *(Or if a company, the ACN plus signature/s or company seal & signatures)* | Date

Contact details *(Optional, except where Part B of this form applies for single detached class 1a buildings or class 10 buildings or structures)*

Name	
Postal address	

OFFICE USE ONLY *(applicable to assessment manager, alternative assessment manager and private certifier)*

FEE ($)	DATE RECEIVED		RECEIVING OFFICER'S NAME/S		REFERENCE NUMBER/S	

CO-YOU

Co-You Australia Pty. Ltd. (A.C.N. 011 018 465)
Lot 12 Commodore Drive, Paradise Waters, Queensland 4217
P.O. BOX 3[illegible] Gold Coast Mail Centre
Tel: (61) 75-91 8811 Fax: (61) 75-91 8812

28st April 2004

The Chief Executive Officer
Gold Coast City Council
Gold Coast City Administration Centre
Nerang-Southport Road
NERANG QLD 4211

Re: MAKING OF DEVELOPMENT APPLICATIONS RELATING TO LAND AT CURRUMBIN CREEK ROAD AND PIGGABEEN ROAD, CURRUMBIN – SIGNATURE OF APPLICANT AND CONSENT OF OWNER

The following Development Applications are made by Co-You Australia Pty Ltd (ACN 011 018 465) as Applicant of the below Development Applications and the Owner of land situated at Currumbin Creek Road and Piggabeen Road, Currumbin, described as:

- Lot 247 on RP 854934
- Lot 1 on RP 854934
- Lot 2 on RP 168012

All in the Parish of Tallebudgera and County of Ward.

The Applicant provides its signature to and the Owner consents to the following Development Applications being made to the Gold Coast City Council:

1. Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme;

2. Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages;

3. Development Application Superseded Planning Scheme – Preliminary Approval for Building Works (Building Height); and

4. Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:

   (i) Tree Clearing;
   (ii) Road layout and gradient;
   (iii) Water and Sewerage Infrastructure.

This letter constitutes the making of the above Development Applications by the Applicant.

GIVEN UNDER THE COMMON SEAL of Co-You Australia Pty. Ltd. A.C.N. 011 018 465 by authority of a resolution of the Board of Directors under the hands of:-

T. Murakami

Satoshi Yamauchi

CO-YOU AUSTRALIA PTY LTD ACN 011 018 465 The Common Seal

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

PART E

Complete if this application involves ***assessment against the***

Planning Scheme Works

Other than involving material change of use of premises

Completion of all questions on Part E of this form is *mandatory* for approval of any works required under the Planning Scheme including:

Detailed engineering plans and other plans **requiring approval under the planning scheme**[1];

Detailed engineering plans for subdivisional works;

Conceptual design plans for engineering work and building work **requiring approval under the planning scheme**[2] when the application does not involve assessment of a material change of use of premises.

Nature of the work

A development permit authorises development to occur, while a preliminary approval is a step in the approval process and does not authorise development to occur.

1. This application is for: *(Tick one or both if applicable)*
   - ☒ Preliminary approval
   - **AND / OR**
   - ☐ Development permit
2. If both of the above boxes are ticked, provide details below

3. Are the works subsequent to a previous development approval?
   - ☒ NO
   - ☐ YES Provide previous file reference: Refer to Volume 1 of the Application

Referral triggers

This application may trigger referral to an IDAS referral agency. These questions help identify whether referral is required.

4. Does the application trigger referral to an IDAS referral agency? *(Tick applicable box) (Use the Referrals Checklist to determine any possible referrals for this application).*
   - ☐ NO
   - ☒ YES ***If yes, attach Referrals Checklist***

Details of the work

The **type of work which is assessable** against the planning scheme is determined by the scheme for a particular local government and will vary across the State. These works may include roadworks, stormwater, water and sewerage infrastructure, etc.

To determine the types of work which are assessable under a particular planning scheme, contact the relevant local government. The local government may have information sheets available which list the assessable works under their planning scheme.

5. Describe the nature and extent of works proposed:

Preliminary Approval for Operational Works being:

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

Refer to the Gold Coast Golf Resort Currumbin Volumes 1-5

Plans and documents

6. Is the application accompanied by: *(Tick applicable box/es)*
   - ☒ Plans
   - ☒ Proposal Report
   - ☐ Other *(Specify)*

This application cannot be accepted by the assessment manager unless accompanied by Part A of the Development Application

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBERS	

[1] This form is not mandatory for non-IDAS approvals such as engineering and other works plans required to be submitted and approved to comply with specific conditions of development approvals.

[2] If the application also seeks planning scheme approval for the change of use of the premises, Part D may be used instead for both the conceptual works design and the change of use. If the application also seeks development approval of building works assessed under the Building Act, Part B must be used together with this form.

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

PART F

Complete if this application involves

Reconfiguring a Lot

Completion of all questions on Part F of this form is *mandatory* for all applications for reconfiguring a lot including conceptual design for any associated works that require approval under the planning scheme.

Nature of the reconfiguration

A development permit authorises development to occur; while a preliminary approval is a step in the approval process and does not authorise development to occur.

Reconfiguring a lot includes freehold subdivision, community title subdivision, subdivision by lease, realignment of boundaries, creation of an access easement, etc.

1. This application is for *(Tick one or both if applicable)*:
   ☐ Preliminary approval ☒ Development permit
2. If both of the above boxes are ticked *(ie. a staged subdivision)* provide details *(E.g. stage 1 – development permit and stages 2, 3 & 4 – preliminary approval) (Provide details in Proposal Report if insufficient room)*
3. What is the nature of the reconfiguration? *(Eg. subdivision, subdivision by lease, realignment of a boundary)*
   Staged Subdivision as shown on the PMM subdivision drawings

Referral triggers

This application may trigger referral to an IDAS referral agency. These questions help identify whether referral is required.

Referral coordination occurs - when an application involves 3 or more concurrence agencies; or under transitional arrangements.

Referral coordination is further explained in the Referrals Checklist.

4. Does the application trigger referral to an IDAS referral agency? *(Tick applicable box) (Use the Referrals Checklist to determine any possible referrals for this application).*
   ☐ NO ☒ YES ***If yes, attach Referrals Checklist***
5. Does the application trigger referral coordination? *(Tick applicable box) (Use the Referrals Checklist to determine if this application triggers referral coordination).*
   ☐ NO ☒ YES ***If yes, attach Referrals Checklist***

Details of the land

Completion of questions 6 and 7 will assist in the identification of referral agencies and / or is requested for statistical and planning purposes.

6. Number of existing lots: 3
7. Total area of land in application *(If staged, total area of the land in stage)*? 148.047 hectares
8. How is the subject land identified in the planning scheme? *(Name the zone, precinct etc.)*
   Rural Domain
9. What is the current use of the land? *(If vacant, also identify the previous use)*
   Rural, including grazing use
10. Provide details of any existing structures / buildings on the land
    The land is currently improved with dwellings, sheds, fences and associated rural infrastructure
11. Provide details of existing services *(Eg. water & sewerage) (Attach plan identifying location if appropriate)*
    water, sewerage, electricity and telecommunication services are available in the locality and can be provided to the site
12. Are there any existing easements over the land? *(Tick applicable box)*
    ☒ NO ☐ YES Attach plan identifying easement location & purpose

Proposal details

Completion of questions 13 to 16 will assist in the identification of referral agencies and / or is requested for statistical and planning purposes.

13. Number of proposed lots: Staged Subdivision and group title develoment - refer to PMM staged reconfiguration plans
14. Number of additional **residential** lots proposed in development permit: Total of 9 community title residential lots and 34 freehold lots (Refer to staged subdivision plans)
15. If the application is for a stage or stages of an overall subdivision proposal, provide details of estate name & stage number below
    The development is known as the Gold Coast Golf Resort Currumbin
16. Total area of land in the development permit (minus any balance area)? 148.047 (including area of park)
17. Area of land to be contributed for community purposes: A public park of about 24 hectares is proposed
18. Length of new road to be constructed: About 9,080m of internal private road will be created

Plans and documents

19. Is the application accompanied by: *(Tick applicable box/es)*
    ☒ Plans ☒ Proposal Report
    ☐ Other *(Specify)*:

This application cannot be accepted by the assessment manager unless accompanied by Part A of the Development Application

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBERS	

PART J

Form 1 Development Application

idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Complete if this application involves ***assessment under the***

Vegetation Management Act

For operational work for assessable clearing of native vegetation on freehold land

Completion of all questions on Part J of this form is mandatory for all applications assessed under *the Vegetation Management Act 1999* (VMA) involving operational work for assessable clearing of native vegetation on freehold land.

Nature of the application

Regional ecosystem maps are prepared under the *Vegetation Management Act 1999* (VMA) and are available at local offices of the Department of Natural Resources and Mines.

Clearing of native vegetation outside those areas identified in Question 1, Part J of this form is not assessable development under the VMA.

Certain clearing of native vegetation is exempt development under Schedule 8, Part 1 item 3A of the IPA. Exempt development includes, for example, clearing to the extent necessary to build a single residence and any reasonable associated building or structure and clearing that is for essential management.

Part J of this form does not apply to an application for the clearing of vegetation assessed under a planning scheme or local law.

1. This application is for the clearing of native vegetation on freehold land which is shown on a regional ecosystem map as: *(Tick if applicable)* —

- ☒ Remnant vegetation
- ☐ Within an area of high nature conservation value declared under the VMA
- ☐ Within an area vulnerable to land degradation declared under the VMA

2. Does Schedule 8, Part 1 item 3A of the *Integrated Planning Act 1997* (IPA) exempt the proposed clearing from a development application?

- ☐ NO — *This application is to be accompanied by a Property Vegetation Management Plan*
- ☒ YES — *An application for clearing of native vegetation is **not** required*

* An exemption applies under section 74(b) of the Vegetation Management Act as site was included in a Special Facilities Zone

Property Vegetation Management Plan

The PVMP is to refer to the vegetation identified in Question 1, Part J of this form.

3. **Property Vegetation Management Plan**

A Property Vegetation Management Plan (PVMP) must accompany applications for assessable clearing of native vegetation on freehold land.

The PVMP is required to address the following matters: *(Tick if provided)* —

- ☐ The location and extent of the area proposed to be cleared, by reference to easily identifiable fixed points
- ☐ A description of the vegetation proposed to be cleared
- ☐ The location, extent and description of any existing land degradation on the property
- ☐ The action proposed to be taken to prevent the proposed clearing contributing to land degradation, in the area mentioned in point one above, during and after the clearing
- ☐ The location, extent and description of any remnant vegetation remaining on the property after the proposed clearing
- ☐ Any proposed rehabilitation or restoration of vegetation on the property

The Property Vegetation Management plan may also include any other information the applicant considers will assist in the assessment of the application.

Documentation requirements

4. Is a Property Vegetation Management Plan attached to this application?

- ☐ NO — *(This application cannot be accepted unless accompanied by a Property Vegetation Management Plan)*
- ☐ **YES**

This application cannot be accepted by the assessment manager unless accompanied by Part A of the Development Application

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED		REFERENCE NUMBER/S	

REFERRALS CHECKLIST

Form 1 Development Application idas INTEGRATED DEVELOPMENT ASSESSMENT SYSTEM

Checklist for determining referrals under IDAS

Complete this checklist if you have completed parts C, D, E, F, G, H, I, K, L or M of Form 1 Development Application.

It is the responsibility of the applicant to work with the assessment manager to identify if an application involves —

- referral to a referral agency for their assessment and determination, or comment;
- the coordination of any information request through the referral coordination process.

This checklist contains a number of questions to aid in this determination.

If your application **does** involve referral, the assessment manager will confirm in the acknowledgement notice the referral actions required.

To assist you in answering the questions below a series of guides are available. These guides are detailed below and are available from local governments or on the IPA website at www.ipa.qld.gov.au

State-controlled roads matters

Applications involving material change of use or operational works *(for filling or excavation not associated with a material change of use, reconfiguring a lot or building work)*, assessable under the local government's planning scheme and/or reconfiguring a lot, may trigger this referral.

Guide 3 *Does my application trigger a referral in relation to State-controlled road matters?* will assist in answering this question.

1. Does the application trigger referral to the Department of Main Roads (DMR) in relation to a **State-controlled road**?

☐ NO ☒ YES - *detail the trigger/s below. (If trigger E is identified, also detail the threshold).*

Trigger A - direct access to a State Controlled Road (Currumbin Creek Road) and Trigger E - Reconfiguring a Lot for residential use involving more than 201 dwellings (Advice Agency)

Environmentally relevant activities

Guide 4 *Does my application involve an Environmentally Relevant Activity (ERA)?* will assist in answering this question.

2. Does the application involve assessment of a material change of use for an **Environmentally Relevant Activity**?

☒ NO ☐ YES - *provide all relevant details on Part G of Form 1 Development Application.*

Contaminated land matters

Applications involving material change of use assessable under the local government's planning scheme and/or reconfiguring a lot may trigger this referral.

Guide 5 *Does my application trigger referral for consideration of contaminated land matters?* will assist in answering this question.

3. Does the application trigger referral to the Environmental Protection Agency (EPA) for consideration of **contaminated land** matters?

☒ NO ☐ YES – *provide details of the matters below.*

Refer to attached copies of searces

Strategic port land

All applications for a material change of use on strategic port land that is inconsistent with the approved land use plan trigger referral to the Minister for Transport.

4. Does the application trigger referral to the Minister for Transport in relation to **development on strategic port land that is inconsistent with the approved land use plan**?

☒ NO ☐ YES - *provide all relevant details on Part I of Form 1 Development Application.*

Vegetation clearing made assessable under schedule 8 of the IPA

Guide 12 *Does my application involve vegetation clearing assessable under Schedule 8 of IPA?* will assist in answering this question.

5. Does the application involve assessment by the Department of Natural Resources and Mines (NR&M) of operational work for **the clearing of native vegetation on freehold land assessable under Schedule 8 of IPA**?

☒ NO ☐ YES - *provide all relevant details on Part J of Form 1 Development Application.*

Acid sulfate soils matters

Guide 10 *Does my application trigger referral for acid sulfate soils?* will assist in answering this question.

6. Does the application trigger referral to the Department of Natural Resources and Mines (NR&M) in relation to **acid sulfate soils**?

☐ NO ☒ YES

Taking or interfering with water

Guide 13 *Does my application trigger referral in relation to development in a declared catchment area?* will assist in answering this question.

7. Does the application trigger referral to the Department of Natural Resources and Mines (NR&M) in relation to development in a **declared catchment area** under the *Water Act 2000*?

☒ NO ☐ YES

Guide 14 Do[ ]application involve asse[ ]t of a referable dam? will assist in answering this question.

8. Does the application involve assessment by the Department of Natural Resources and Mines (NR& M) of operational work for a **referable dam** under the *Water Act 2000*?

☒ NO ☐ YES - *provide all relevant details on Part K₅ of Form 1 Development Application.*

Guide 15 *Does my application involve assessment of a water related development?* will assist in answering this question.

9. Does the application involve assessment by the Department of Natural Resources and Mines (NR&M) of operational work **to take or interfere with water** under the *Water Act 2000*?

☒ NO ☐ YES - *provide all relevant details on the applicable Part K of Form 1 Development Application.*

Guide 16 *Does my application involve the removal of quarry material from a watercourse?* will assist in answering this and other questions relating to development approval of riverine quarry material operations.

10. Does the application trigger referral to the Department of Natural Resources and Mines (NR&M) in relation to the **removal of quarry material from a watercourse** under an allocation notice given under the *Water Act 2000*?

☒ NO ☐ YES - *provide all relevant details on the applicable Part K₇ of Form 1 Development Application.*

Major hazard facilities

Guide 17 *Does my application involve a material change of use for a Major Hazard Facility or Possible Major Hazard Facility?* will assist in answering this question.

11. Does the application involve assessment by the Department of Emergency Services (DES) for material change of use for a **major hazard facility or possible major hazard facility** as defined under the *Dangerous Goods Safety Management Act 2000*?

☒ NO ☐ YES - *provide all relevant details on Part L of Form 1 Development Application.*

Coastal management matters

Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.

12. Does the application trigger referral to the Environmental Protection Agency (EPA) for a **material change of use** completely or partly within a coastal management district and assessable under a planning scheme; **reconfiguring a lot** completely or partly within a coastal management district or in connection with the construction of a canal; or **building work** completely or partly seaward of a coastal building line as defined under the *Coastal Protection and Management Act 1995*.

☒ NO ☐ YES – *provide details of the proposed development below.*

Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.

13. Does the application involve assessment by the Environmental Protection Agency (EPA) for operational work **in a tidal area or coastal management district** as defined under the *Coastal Protection and Management Act 1995*?

☒ NO ☐ YES – *provide all relevant details of Part M of Form 1 Development Application.*

Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.

14. Does the application trigger referral to the Port Authority for the land in relation to **development below high water mark and within the limits of a port** as defined under the *Transport Infrastructure Act 1994*?

☒ NO ☐ YES – *provide details of the proposed development below.*

Guide 18 *Does my application involve assessment of coastal development?* will assist in answering this question.

15. Does the application trigger referral to Queensland Transport, Maritime Safety Queensland in relation to operational work that is **tidal work**; **disposing of dredge spoil or other solid material** in tidal water; **reclaiming land** under tidal water; or **constructing a canal** if the canal is associated with reconfiguring a lot?

☒ NO ☐ YES – *provide details of the proposed development below.*

Heritage registered place

Guide 19 *Does my application involve assessment of development in a heritage registered place?* will assist in answering this question.

16. Does the application involve assessment by the Heritage Council for development **in a heritage registered place** as defined under the *Queensland Heritage Act 1992*?

☒ NO ☐ YES – *provide all relevant details of Part C of Form 1 Development Application.*

Referral coordination

Guide 6 *Does ... application trigger the referral coordination process?* will assist in answering this question.

17. Does the application trigger **referral coordination** because the application involves **3 or more concurrence agencies**?

☒ NO ☐ YES

Applications involving material change of use assessable under the local government's planning scheme and/or reconfiguring a lot may trigger this referral

Guide 6 *Does my application trigger the referral coordination process?* will assist in answering this question.

18. Does the application trigger referral coordination because the application involves **a facility or area prescribed under schedule 6 or 7 of the *Integrated Planning Regulation 1998***?

☒ NO ☐ YES - *detail the trigger below*

Referral response under section 3.3.2 of the IPA

Referral agency responses prior to lodgement
Under s 3.3.2 of IPA a referral agency may give a referral agency response on a matter within its jurisdiction about a proposal before an application for the proposal is made to the assessment manager.

19. Did a referral agency give a referral agency **response under s 3.3.2 of IPA** before the application was made to the assessment manager?

☒ NO ☐ YES - *attach a copy of the referral agency/s response/s*

Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Level 16, 288 Edward St • Brisbane, Queensland • GPO Box 2771 • QLD 4001 •AUSTRALIA
Telephone (07) 32251827 • Facsimile (07) 3247 3278 • www.env.qld.gov.au/environment/business/contaminated

SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 571753 Site ID: 06 October 2003
Cheque Number: -
Client Reference: Christelle Thresher;#2509180;John Hodgkinson

DEACONS SOLICITORS
GPO BOX 407
BRISBANE QLD 4001

This response relates to a search request received for the site:

Lot: 247 Plan: RP854934
75 AND 107 PIGGABEEN ROAD
CURRUMBIN WATERS 4223

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

If you have any queries in relation to this search please phone (07) 3227 7370.

Tess Dobinson
Acting Registrar, Contaminated Land Unit

Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

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SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 571746 Site ID: 06 October 2003
Cheque Number: -
Client Reference: Christelle Thresher:#2509180:John Hodgkinson

DEACONS SOLICITORS
GPO BOX 407
BRISBANE QLD 4001

This response relates to a search request received for the site:

Lot: 2 Plan: RP168012
107 PIGGABEEN ROAD
CURRUMBIN WATERS 4223

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

If you have any queries in relation to this search please phone (07) 3227 7370.

Tess Robinson
Acting Registrar, Contaminated Land Unit

Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

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SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 571749 Site ID: 06 October 2003
Cheque Number: -
Client Reference: Christelle Thresher:#2509180:John Hodgkinson

DEACONS SOLICITORS
GPO BOX 407
BRISBANE QLD 4001

This response relates to a search request received for the site:

Lot: 1 Plan: RP854934
75 AND 107 PIGGABEEN ROAD
CURRUMBIN WATERS 4223

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

If you have any queries in relation to this search please phone (07) 3227 7370.

Tess Dobinson
Acting Registrar, Contaminated Land Unit





GOLD COAST GOLF RESORT CURRUMBIN

Prepared for : Devine

Prepared by : Rankine

Volume 1

Executive Summary & Town Planning Report

April 2004

GOLD COAST GOLF RESORT
CURRUMBIN

APRIL 2004

Volume 1	Executive Summary and Town Planning Report
Volume 2	Site Planning and Design Guidelines Report
Volume 3	Visual Analysis and Landscape Intent Report
Volume 4	Technical Reports
Volume 5	Site Based Management Plan

Prepared For

DEVINE LIMITED

Coordinated by

BRANNOCK & ASSOCIATES
PLANNING AND ENVIRONMENT CONSULTANTS
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Ph. (07) 3229 5322
Fax. (07) 3229 5488
brannock@gil.com.au

PROJECT TEAM

Project Developer (subject to contract)	Devine Limited
Architectural	ML Design – principal architect Bligh Voller Nield
Town Planning & Application Coordination	Brannock & Associates
Civil Engineering & Coordination of Engineering and Environmental Input	Weathered Howe
Flora and Fauna	Planit Consulting
Landscape	Yurrah Landscape Solutions
Bushfire Management	Bushland Protection Systems
Traffic Engineer	Connell Wagner
Hydraulic Engineer	Lawson & Treloar Pty Ltd
Geotechnical	Coffey Geosciences Pty Ltd
Surveying	PMM –Reconfiguration of a Lot Bennett & Bennett – tree survey and property details

EXECUTIVE SUMMARY

Overview and Applications

The ***Gold Coast Golf Resort Currumbin*** occupies 148 hectares of land situated on Currumbin Creek Road and Piggabeen Road, Currumbin. The land is currently owned by Co-You Australia Pty Ltd, however Devine Limited has conditionally contracted to purchase the land for the purposes of giving effect to a rezoning approval gazetted on the 12th March 1992.

The documentation prepared in relation to the Gold Coast Golf Resort Currumbin comprises the following 5 volumes:

- Volume 1: Executive Summary and Town Planning Report
- Volume 2: Site Planning and Design Guidelines Report
- Volume 3: Visual Analysis and Landscape Intent Report
- Volume 4: Technical Studies
- Volume 5: Site Based Management Plan

For the purposes of the development proposal, in addition to the above, the Advanced Concept Plan (based on Hulbert Group 10.11.89 Plan) and the proposed staged subdivision plans depict the development form and intent.

There are two different types of Superseded Planning Scheme applications being made and the entire documentation is relevant to both types of applications. Specifically, application is being made for the following:

1. **Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme.**

This Application is made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

> *"(a) development that would not have required a development permit under a superseded planning scheme but requires a development permit under the planning scheme in force at the time the application is made, a development application –*
>
> *(i) in which the applicant advises that the applicant proposes to carry out development under the superseded planning scheme",*

An Acknowledgment Notice should issue under Section 3.2.5(1) of the IPA;

2. **Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages**; and

3. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Building Works (Building Height)**; and

4. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:**

(i) Tree Clearing;
(ii) Road layout and gradient;
(iii) Water and Sewerage Infrastructure.

The Applications identified in 2-4 above are made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

"(b) ... a development application - .

(i) in which the applicant asks the assessment manager to assess the application under a superseded planning scheme"

An Acknowledgment Notice should issue under Section 3.2.5(3) of the IPA.

Development Overview and Architectural Guidelines

Volume 2 contains the Site Planning and Design Guidelines Report which outlines the analysis and synthesis that has been undertaken to formulate the Advanced Concept Plan.

The Gold Coast Golf Resort Currumbin development includes the following components:

• single family lots	- 34 lots
• various units	- 307 dwellings
• golf course 5-plex	- 65 dwellings
• golf course twin villas	- 28 dwellings
• condominiums	- 120 dwellings
Total residential dwellings	*554*

• Hotel	96 rooms (configured as 48 dual key units)
• Golf Course	18 hole, international standard

Other facilities forming part of the development include a clubhouse, pro shop, restaurant and recreation facilities such as swimming pools and tennis courts for use of the residents on site.

Building heights will be a mix of 2-3 storeys as outlined in the Site Planning and Design Guidelines Report.

The development will be managed under a layered principal body corporate scheme. The concept also shows the proposed freehold residential allotments and the proposed public park.

Consistent with the approved Hulbert Group Concept Plan, access into the golf course and residential community is from two locations on Currumbin Creek Road. All roads within the site will be private roads (due to their gradient) and will be managed under the proposed community title scheme.

Pedestrian and golf buggy paths will be provided and use will be made of existing site tracks for accessibility, including for site maintenance purposes.

Town Planning

Prior to the coming into effect of the 2003 Planning Scheme for the City of the Gold Coast, the subject land was included in a Special Facilities Zone.

The relatively general nature of the existing rezoning approval conditions and approved Hulbert Group Concept Plan has made it necessary to review the previous application material to identify some specific details about the nature and extent of approved development. The background material includes Rezoning Application 1822 (original Special Facilities rezoning approval relating to the land) and Rezoning Application 2135 (the existing Special Facilities rezoning approval relating to the land).

By Order in Council dated the 8th June 1989, and gazetted on the 10th June 1989 the site was rezoned from the Rural B Zone to the *"Special Facilities (Golf Course, Clubhouse and association [sic] recreation facilities, accommodation units and or dwelling houses – maximum 451 and 3 storeys, hotel – maximum 150 rooms and 3 storeys, Open Space)"* Zone.

By Order in Council dated the 12th March 1992 the subject land was further rezoned, although the land was retained in the Special Facilities Zone. The relevant zoning was *"Special Facilities (Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), Hotel (maximum 150 rooms)."*

As demonstrated in Section 3 of the Town Planning Report, in granting the existing approval, Council has approved:

- a height up to 3 storeys over parts of the site;
- building controls (including height) to minimise visual impacts of development on the site;
- roads on grades steeper than 16% and residential development on slopes greater than 20% (up to 35%);
- a residential density of up to 4.4 dwellings per hectare (or 5.4 dwellings per hectare including the hotel rooms);
- a basic footprint/site cover based on the Hulbert Group Concept Plan layout dated 10.11.89; and
- a mix of uses to be developed on the site.

Condition 1 of the March 1992 rezoning approval specifies that the approved development is to be *".....in accordance with concept plan 10.11.89 Hulbert Group unless otherwise approved by Council."*

The existing rezoning approval was an approval of a Concept Plan, subject to a number of conditions including the requirement for further information and detailed investigation. Under Condition 1 of the approval, Council has the power to approve another plan. The existing conditions recognise that detailed design was required and that the approved Hulbert Group Concept Plan would be refined as a result of those further investigations.

The Advanced Concept Plan has been prepared having regard to the approved Hulbert Group Concept Plan and its conditions. A number of consultants have been engaged to undertake various assessments of the site in order to determine the appropriateness of development on the site and in particular the approved development concept and layout. The recent investigations, which are related to complying with a number of the existing rezoning approval conditions, have highlighted that the approved Hulbert Group Concept Plan needs refinement as we move to a detailed layout plan primarily because:

- Topographical constraints affect the approved road layout and the location of some of the approved buildings;

- Flora and fauna investigations have resulted in a decrease in the density of the development and changes to the placement of building sites;

- Technological improvements in golf equipment since the Hulbert Group Concept Plan was approved and resulting increases in 'safety margins' has necessitated a change to the layout of the golf course;
- There are slope stability issues in some parts of the site previously approved for development;
- There is a need to alter the positioning of some roads relative to gradient and the desire to minimise cut and fill; and
- Appropriate measures are needed to manage bushfire risk.

The impact of complying with these conditions is that the Hulbert Group Concept Plan evolves to the Advanced Concept Plan. Such an evolution was always going to occur in the detailed design process, and as the impact of the conditions of approval became evident. The changes which have occurred in this process invariably produce a better outcome for the site. The Advanced Concept Plan includes design guidelines and parameters for the different components of the Gold Coast Golf Resort Currumbin which provide a greater level of clarity regarding the development parameters associated with the approval.

A comparative analysis of the approved Hulbert Group Concept Plan and the Advanced Concept Plan is provided in Section 5 of the Town Planning Report for the purposes of confirming that the Advanced Concept Plan is in accordance with the Hulbert Group Concept Plan or alternatively that it should be approved in lieu of the Hulbert Group Plan.

Visual Analysis and Landscape Intent

A Visual Analysis and Landscape Intent Report has been undertaken by Yurrah Landscape Solutions (Volume 3) and visual representations have been prepared by ML Design (refer to Appendix B of Volume 2) to depict the visual appearance of the Advanced Concept Plan compared with existing views of the site.

It is concluded that the visual values of the site when viewed externally will be maintained or enhanced as a result of the development. The visual and landscape qualities of the site will be improved through extensive substantial landscaping and rehabilitation which will result in a net increase of about 18% of vegetated area on the site.

An Open Space Management Plan and a management plan dealing with ecological and landscape issues have also been prepared.

Ecological Assessment

In complying with the conditions of the rezoning approval associated with the Hulbert Group Concept Plan an Ecological Assessment has been undertaken by Planit Consulting (refer to Technical Report 1 in Volume 4). The following conclusions are from that report:

> *"The completion of ecological assessments over the site indicates that significant flora and fauna assemblages exist within the southern remnant ('core habitat areas'). These areas are recommended to be retained, buffered and managed within an environmental covenant area and through an approved rehabilitation plan.*
>
> *The balance of the site incorporates lower value with rehabilitation of some degraded areas (areas of retained riparian vegetation and selected ridgeline copse) recommended during development of the site.*

It is considered that the design plans prepared suitably achieve the desired results above and as such will not have an unacceptable impact on the environmental values of the site. In addition the amended proposal is vastly superior in terms of protecting recorded environmental values than the existing layout."

Geotechnical Assessment

A geotechnical report has been prepared to inform the layout of development and the built form avoids areas of 'very high likelihood' for disturbance (above 30% slope).

Infrastructure Services

The proposed infrastructure requirements for the Gold Coast Golf Resort have been examined by Weathered Howe (refer to Technical Report 2 in Volume 4). As outlined in that report, the design and location of dwellings and accessways has been determined with specific regard to the topography of the site. As a result existing riparian corridors have been retained and improved through measures such as appropriate stormwater design and engineering works.

The golf course will not adversely impact on flood conveyance, flood storage, or flood risk.

Augmentation and extensions to external infrastructure services will be required, including water and sewerage, telecommunication and electricity. These requirements were necessary under the approved Hulbert Group Concept Plan and remain relevant to the Advanced Concept Plan. In fact, the conditions of the approval refer to infrastructure service requirements and the assessment of those requirements has contributed to the evolution of the Advanced Concept Plan.

Road Impact Assessment

Connell Wagner has examined external road impacts associated with the Gold Coast Golf Resort Currumbin (refer to Technical Report 4 in Volume 4), and the conclusions from that report are:

- *"The increased traffic flow along Currumbin Creek Road due to the contribution from the development will result in a slight reduction in the Level of Service (L.O.S. 'D' to L.O.S. 'E') along this road. Note that Currumbin Creek Road is likely to be close to the limit of stable flow by 2009 even without any additional development traffic;*
- *by 2019, Currumbin Creek Road will be operating at or close to capacity (ie L.O.S. 'E) based on current projected traffic escalation. This classification will not be affected by the addition of development traffic.*
- *The existing Currumbin Creek/Galleon Way intersection currently warrants upgrading due to the lack of passing width for west-bound through traffic past vehicles turning right into Galleon Way. This upgrading can be best achieved within current physical constraints by construction of a roundabout;*
- *A roundabout at Currumbin Creek Road/Galleon Way will enable this intersection to perform with a satisfactory degree of saturation, even with 2019 traffic volumes plus contribution from the development;*
- *The intersection of Currumbin Creek Road/Bienvenue Drive/Mainsail Street is heavily saturated during peak periods under current traffic flows. SIDRA analysis indicates that by 2009 this intersection will be over saturated and require upgrading, even without additional traffic impact from the proposed development."*

With respect to the above conclusions, it should be noted that the Advanced Concept Plan does not result in any worsening of external traffic impacts compared to the approved Hulbert Group Concept Plan dated the 10th November 1989.

Site Based Management Plan

A Site Based Management Plan (SBMP) has been compiled by Weathered Howe to provide detailed policies, performance criteria and procedures to minimise the impact of the Gold Coast Golf Resort Currumbin on the physical and social environment. It includes reporting and monitoring mechanisms and procedures for corrective actions.

The SBMP covers both the operation and construction phases of development and has been prepared in accordance with Queensland Environmental Protection Agency guidelines and sound engineering practice. A range of aspects are dealt with including development on steep slopes, bushfire management and stormwater management.

Conclusion

The Gold Coast Golf Resort Currumbin will be developed in stages and managed under a community title arrangement.

Two types of Superseded Planning Scheme applications have been applied for including applications for Reconfiguration, Building Works and Operational Works as detailed in the Town Planning Report.

Insofar as the use of the land including the layout of the development is concerned, a number of matters need to be borne in mind:

- The approved Hulbert Group Concept Plan was approved in conjunction with the rezoning, subject to compliance with the rezoning conditions;
- The Hulbert Group Plan is a "Concept Plan", both on its face and in the conditions of rezoning approval (Condition 1);
- Condition 3 requires submission of a tree clearing plan for approval by the Shire Engineer;
- Condition 25 requires all tree clearing to be carried out with prior approval under the Council's relevant by-law;
- Condition 9 provides for "special species" of trees as determined by Council to remain on the property;
- Condition 5 requires the submission of "detailed concept plans" of all stages at a later part of the approval process;
- Condition 12 makes it clear that the yield of the product is a maximum only.

Considered together, the Hulbert Group Concept Plan and rezoning conditions clearly anticipate an evolving design, in accordance with the approved Hulbert Group Concept Plan, but advanced as necessary to meet the conditions.

An examination of the findings presented in the balance of the application material is that the conditions of the rezoning approval requires the production of the Advanced Concept Plan. Therefore the proposal in the form of the Advanced Concept Plan constitutes the evolution of the approved Hulbert Group Concept Plan and the conditions of the rezoning approval.

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TOWN PLANNING REPORT

GOLD COAST GOLF RESORT CURRUMBIN

APRIL 2004

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1.0 INTRODUCTION & OVERVIEW

1.1 Overview

This Report has been prepared in relation to 148 hectares of land situated on Currumbin Creek Road, Currumbin. The land is currently owned by Co-You Australia Pty Ltd, however Devine Limited has conditionally contracted to purchase the land for the purposes of giving effect to a rezoning approval gazetted on the 12th March 1992.

1.2 The Applications

Application is being made for the following:

1. **Development Application Superseded Planning Scheme – Notification of the intention to carry out development that was self assessable or exempt under a Superseded Planning Scheme.**

This Application is made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for:

> *"(a) development that would not have required a development permit under a superseded planning scheme but requires a development permit under the planning scheme in force at the time the application is made, a development application –*
>
> *(i) in which the applicant advises that the applicant proposes to carry out development under the superseded planning scheme",*

An Acknowledgment Notice should issue under Section 3.2.5(1) of the IPA;

2. **Development Application Superseded Planning Scheme – Application for Development Permit for the Reconfiguration of a Lot in Stages; and**

3. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Building Works (Building Height); and**

4. **Development Application Superseded Planning Scheme – Application for Preliminary Approval for Operational Works being:**

   (i) Tree Clearing;
   (ii) Road layout and gradient;
   (iii) Water and Sewerage Infrastructure.

The Applications identified in 2-4 above are made in accordance with Schedule 10 of the IPA in relation to a development application (superseded planning scheme) for

> *"(b) ... a development application - .*
>
> *(i) in which the applicant asks the assessment manager to assess the application under a superseded planning scheme"*

An Acknowledgment Notice should issue under Section 3.2.5(3) of the IPA.

1.3 Supporting Information and Technical Studies

The Gold Coast Golf Resort Currumbin is an evolution of the Hulbert Group Concept Plan dated November 1989 and the rezoning conditions that relate to the approved Hulbert Group Concept Plan following the Special Facilities rezoning gazettal in March 1992.

The following documentation forms part of the applications:

Volume 1: Executive Summary and Town Planning Report

Volume 2: Site Planning and Design Guidelines Report (ML Design)

Volume 3: Visual Analysis and Landscape Intent Report (Yurrah Landscape Solutions)

Volume 4: Technical Studies:

- Ecological Assessment (Planit Consulting);
- Infrastructure Services Report (Weathered Howe);
- Geotechnical Report (Coffey Geosciences);
- Road Impact Assessment Report (Connell Wagner).

Volume 5: Site Based Management Plan

- includes Bushfire Risk Assessment and Mitigation Plan, and the Stormwater Management Strategy

In addition the applications include the proposed reconfiguration plans and a Body Corporate Management Statement/Outline.

1.4 Town Planning Report Structure

Section 2 of this report provides an overview of the subject site and the surrounding area, and Section 3 provides the background to the applications, including a summary of the existing approval applying to the land.

Section 4 describes the development that is depicted on the Advanced Concept Plan and in the Site Planning and Design Guidelines Report. An assessment of the Advanced Concept Plan compared with the approved Hulbert Group Concept Plan is provided in Section 5.

The Buildings Works, Reconfiguration and Operational Works applications are discussed in Sections 6 to 8 respectively.

1.5 Planning and Development Certificates

In October 2003 the Gold Coast City Council issued three Standard Planning and Development Certificates in relation to the site. The current approvals certified by Council as applying to the land are shown at the top of page 4 of each certificate, and the relevant conditions certified by Council are attached to each certificate. Copies of the Certificates are contained in Appendix D. Research of the various application material relating to the rezoning approved by Council in 1990 (and gazetted in 1992) reveals varying sets of conditions

and negotiations on conditions (particularly those relating to external roadwork requirements) between the Applicant and the Council. Appendix A contains a copy of the set of conditions that form the relevant consolidated set of conditions. It is noted that these vary from those contained in the Planning and Development Certificates issued by Council in October 2003.

2.0 SITE CONTEXT

2.1 The Site

The subject site has a total area of 148.047 hectares and is described as follows:

- Lot 247 on RP 854934 - 24.36 hectares
- Lot 1 on RP 854934 - 53.43 hectares
- Lot 2 on RP 168012 - 70.257 hectares

The land is bounded by Currumbin Creek Road on the west, Piggabeen Road to the south, Hoffshildt Drive to the north, and generally follows the New South Wales border to the east.

The land is in a rural state and part of the land adjacent to Currumbin Creek Road is being used for grazing purposes. It has previously been used as a dairy farm for several years.

A predominant feature of the site is the main ridge along the Queensland/New South Wales border. Currumbin Creek borders Currumbin Creek Road and there are some dams scattered throughout the site.

The vegetation is generally cleared in the lower areas of the site with a narrow band of vegetation retained along the creekline and scattered trees over the balance of the eastern and northern parts. Intact vegetation occurs in the south-east parts of the site including a variety of Eucalypt forest incorporating rainforest gullies.

Various tracks currently exist on the site and are accessible by four wheel drive and farm machinery. A four wheel drive track is located on the New South Wales side of the border and is utilised for tick quarantine purposes.

Details on the site's topographical and landscape features are outlined in the Site Planning and Design Guidelines Report (Volume 2).

2.2 The Surrounding Area

The land is located at the edge of existing residential development in Currumbin Valley, including detached residential housing to the north extending from Hoffschildt Drive, and to the west on the opposite side of Currumbin Creek Road. To the south are larger residential allotments with access from Piggabeen Road.

To the east of the site, which is across the State border, is dense vegetation on the ridgetop and a large tract of cleared land beyond.

The land is easily accessible to the Pacific Motorway. A neighbourhood shopping centre is located to the north of the site on Bienvenue Street, and other community facilities such as sports fields and schools are close by.

3.0 BACKGROUND

3.1 Overview

Due to the general nature of the approved Hulbert Group Concept Plan and some of the conditions of the rezoning approval, particularly with respect to the design parameters, it is relevant to consider the background material to gain a better understanding of the extent and nature of the approval. The background material includes Rezoning Application 1822 (original Special Facilities rezoning approval relating to the land) and Rezoning Application 2135 (the existing Special Facilities rezoning approval relating to the land).

The background information is relevant to the assessment of whether the Advanced Concept Plan (refer to Section 4 of this report) should be approved in lieu of the approved Hulbert Group Concept Plan, and that assessment is contained in Section 5 of this report. The relevance of the original rezoning approval (Application No. 1822) is apparent in some of the background material associated with the existing rezoning approval as discussed below.

The details of the original and existing rezoning approval have been obtained from:

- The gazetted 1989 and 1992 rezonings;
- The approved Hulbert Group Concept Plan (dated 10.11.89);
- The conditions attaching to the rezoning approval (refer to Section 5.3 of this report and Appendix A); and
- Other background documents associated with the two rezoning approvals.

Co-You Australia as owner of the land and as Applicant accept that the conditions of Rezoning approval 2135 apply to the land and agree to abide by those conditions. Section 5.3 of this report demonstrates how the Advanced Concept Plan addresses the existing conditions.

3.2 Chronology of Key Events

This section provides an overview of the key applications relating to the subject land.

1. Application No. 1822 (1989)

   By Order in Council dated the 8th June 1989, and gazetted on the 10th June 1989, the Governor in Council approved the rezoning of the subject land from the Rural B Zone to the Special Facilities Zone. The description of the zone as per the Order in Council was "Special Facilities Zone as shown on Sheets 52/11 and 80/2."

2. Application No. 2135 (1992)

   By Order in Council dated the 12th March 1992 the subject land was further rezoned, although the land was retained in the Special Facilities Zone. The Zone description was "Special Facilities Zone as shown on Sheets 52/16 and 80/3". This was Application Number 2135 with the Albert Shire Council and was subject to a number of conditions. The application was approved by Council in 1990, however gazettal did not take place until March 1992 following negotiation of conditions with

Council, in particular in relation to external roadworks. The conditions that are understood to form the current consolidated conditions in relation to Application No 2135 are addressed in Section 5.3 of this report and a copy is provided in Appendix A.

Condition 17 of the approval required the dedication of land for the widening of Currumbin Creek Road. The current owner of the site, Co-You Australia, has dedicated 24,730m² of new road along a frontage of 1,549.973 lineal metres. The plan of the required land dedication and the resulting boundary adjustment was registered on the 13th July 1993.

The Special Facilities Rezoning Application Numbers 1822 and 2135 were both effected under the 1988 Albert Shire Planning Scheme. The 1988 Scheme was superseded by the coming into force of the February 1995 Albert Shire Planning Scheme, which retained the site's Special Facilities zoning.

3. Consent Approvals (Post 1992)

Various consent approvals were granted by Council for aspects associated with the approved development including tree clearing, landscape plan, engineering works and an extension to the golf course, however it is understood that these approvals have lapsed.

4. Operational Works (2003)

In about June/July 2003 Graham Marsh Golf Design lodged an application for a Development Permit for Operational Works. That application was concerned with changes to levels associated with three of the golf course holes and the clubhouse and was lodged prior to the current Scheme coming into force. Council issued an Information Request dated 18th August 2003. That application has not progressed and the nature of the requested information has been considered for the purposes of the subject applications.

3.3 The Original Special Facilities Rezoning Approval (Rezoning Application 1822)

In the application material submitted to Council under cover of a letter dated the 27th September 1988, the following information is noted:

"Internal Roadworks

Because of the steeply rising nature of the majority of the site on which residential development will occur, it will be necessary, in order to limit large unsightly excavations, to ***select minimum roadway widths*** *consistent with usage and topography. Grades will be steep in some higher areas* ***with 16% grades being exceeded in some cases.***

Discussions have been held with Shire Officers concerning the choice of 6m pavements in less populous areas of the site, a 10.6m pavement for the main link road through the development and an entry road of 2 x6m pavements. These choices have been directed by the need to minimise cuts and fills whilst providing adequate traffic capacity and are considered to be adequate." [emphasis added]

The application material indicates that the 150 room hotel comprised 75 two-bedroom units, plus other facilities being a coffee shop, bar, dining area and conference room. It was intended that the golf club would contain a members bar and a bistro.

The Planning and Development Committee Meeting Minutes from the 14th November 1988 stated the following in relation to Rezoning Application 1822:

"Proposed use

"The land is currently zoned Rural B and it is proposed to be rezoned to the Special Facilities (Golf Course, Clubhouse and association [sic] *recreation facilities, accommodation units and or dwelling houses – maximum 451 and* ***3 storeys****, hotel – maximum 150 rooms and* ***3 storeys****, Open Space.)*

The land is proposed to be developed as a golf course/residential resort incorporating residential accommodation in the form of a boutique hotel and managed units, units independent of the hotel and situated to overlook at [sic] *the golf course, and finally lots for construction of individual dwelling houses.*

Principle features of the plan are:-

- *18 hole golf course on the flood prone land adjacent to Currumbin Creek Road and maintaining existing tree planting;*
- *set back of any building construction from existing Currumbin Creek Road of generally 280m, except at the eastern end of the property where the high land is adjacent to the road reserve;*
- *various forms of residential housing as noted above and of* ***maximum height three storeys****;*
- *boutique hotel;*
- *extensive areas of private open space in the form of the golf course (60 ha) and treed slopes (50 ha), both of which constitute some 110ha or 72% of the site. ...*

Topography

...Topography has been considered in the layout of the scheme but final layout would be subject to detailed engineering.

The objections have raised particular concerns about the houses along Piggabeen Road. One group is on very steep land and the other is in a floodway on the flood plain. This has been dealt with in the conditions. ...

Amenity

... Except for Piggabeen Road residents, there are no residents on other boundaries. It is considered that the objections from Piggabeen Road are valid and the development should be set back further from that boundary. ***The unit density may be adjusted elsewhere in the scheme. Area C is proposed to be three storey, however because it is close to Piggabeen Road this should be reduced to two storey****. ..."* [emphasis added]

Under cover of a letter dated the 2nd December 1988 the Albert Shire Council issued approval for Rezoning 1822 subject to conditions. Of note from that approval are the following conditions:

"7 Maximum height of housing development C is to be reduced to two storeys.

8 All housing development is to be located below the skyline. All buildings are to be setback a minimum of 50m from New South Wales border boundary."

On the 7th December 1988 the then Applicant wrote to the Council requesting a change to some of the conditions of the rezoning approval. On the 29th December 1988 Council advised of its resolution to amend some of the conditions of approval (these were Conditions 4, 7, 8 and 15). Conditions 7 and 8 are of particular relevance and were:

> *"7 Maximum building* [sic] *is to be in accordance with the precinct plan 88229/101 dated 28th September 1988, and the building height controls dated 30th November 1988.*
>
> *8 All housing development is to be integrated with the ridgeline to the requirements of the Shire Engineer."*

The precinct plan referred to depicts the allocation of the development to a number of precincts and the height of the development expressed in number of storeys was shown for each type of residential product and the hotel. The building height controls referenced in amended Condition 7 contained sketches and a brief description of heights for each precinct, which in summary outlined:

- Precinct 1 - 2 storey with upper storey and garage at or below the road;
- Precinct 2 - 2 storey above or below the road;
- Precinct 3 - 3 storey with upper storey and garage at or below road;
- Precinct 4 - 3 storey;
- Precinct 5 - 3 storey;
- Precinct 6 - 2 storey;
- Precinct 7 - 3 storey.

The 3 storey precincts were located adjacent to the golf course, at the hotel in the centre of the site and the adjoining hotel condominiums, on some of the uphill slopes overlooking valleys in the north-east and southern part of the site and the valley terrace units in the north-west part of the site.

The front cover of the building control document specifies that *"All building heights refer to the definition according to the Building Act 1975, Division 5, Part 17."* This is addressed further in Section 5.2 of this report.

3.4 The Existing Approval (Rezoning Application 2135)

This application was for a similar style of development to that approved under Rezoning Application No 1822, however was for a greater number of dwellings.

The approved Concept Plan prepared by the Hulbert Group is dated 10th November 1989 and contains an itemisation of the number of different dwelling types that are depicted on the plan. The legend on the Hulbert Group Concept Plan specifically identifies a total of 645 accommodation units and dwelling houses, a 'golf club/rec club' and a 150 room hotel.

The Special Planning and Development Committee Meeting Minutes from the 19th December 1989 contain the following information from the Planning Officer's report relating to the existing approval:

> *"... A further rezoning is now sought to permit an increase in the number of accommodation units to be included within the development. **The additional units will be designed in accordance with the building height and design controls previously approved by Council** and located as indicated on the accompanying plans prepared by the Hulbert Group.*

*The proposed development layout and development form **is sympathetic to the topography and vegetation of the site and development controls such as building height controls are proposed to ensure that the resultant development blends in with the natural environment and the character of the surrounding area. Built development will not protrude above the natural tree line of the site**. ...*

*... the inclusion of a variety of residential housing forms with design fitted to the topography and a **maximum height of three storeys**, ...*

... The increased number of dwelling units is proposed to be accommodated on site by reducing the size previously proposed for some units, and increasing the intensity of development within some residential precincts previously approved by Council. It is not proposed that building height be increased above that previously approved by Council, nor is it proposed that the golf course or open space areas be reduced." [emphasis added]

The Planning Officer's report also provided a summary of the grounds of objection made. It was reported that there were 165 objections and two "group" objections (containing 14 and 16 signatures respectively) and that the main concerns were related to:

- Increase in density of 43% above the previous approval;
- Environmental impacts by way of clearing of natural vegetation, civil works, potential pollution of Currumbin Creek, soil erosion and visual amenity;
- Traffic generation associated with the development;
- The increased density is inconsistent with the general amenity of the Currumbin Valley;
- The advertising signs were not clearly visible.

The rezoning approval was for the Special Facilities (*Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), Hotel (maximum 150 rooms)* Zone.

The recommended conditions contained in the minutes listed 7 conditions of approval, with the last one being: "*subject to all existing conditions pursuant to Rezoning Approval No. 1822.*" An additional condition was added by resolution which required the submission of: ..."*a detailed plan for the preservation of trees along Currumbin Creek Road, particularly near the entrance to the resort, the forested area adjacent to Piggabeen Road and the trees that exist bordering the creek within the property.*"

The conditions that are understood to form the approval conditions for Application Number 2135 are set out and discussed in Section 5.3 of this report.

3.5 Overview of Superseded Planning Scheme Provisions

The relevant Superseded Planning Scheme is the Albert Shire Transitional Planning Scheme dated February 1995.

3.5.1 Strategic Plan

The north-western part of the site is designated as Urban Residential, a substantial portion is Park Residential and the part of the site extending along the border with New South Wales is generally Rural. The Open Space/Open Space Corridor designation applies to part of the site.

Urban Residential areas are intended to primarily contain detached housing however some areas may contain residential development at higher densities. The overall density in these areas are in the range of 10-15 dwellings per hectare.

Park Residential areas are for larger residential lots, however with a relatively good level of accessibility and level of services.

Rural areas are intended for people living on large lots and for rural and hobby farm pursuits. Land designated as Open Space is intended to remain in a natural, rural or undeveloped state.

3.5.2 The Special Facilities Zone

In accordance with Council's 1990 Rezoning approval and the subsequent gazettal of the rezoning in March 1992, the site was zoned Special Facilities (*Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), Hotel (maximum 150 rooms)* until the 18th August 2003 when Council's new Planning Scheme came into effect. The relevant provisions of the Special Facilities Zone are:

> *"8.1.1 Intent*
>
> *The Special Facilities Zone is intended to be used to accommodate a particular form of development on a particular site, where such development is considered in the circumstances to be desirable but where the inclusion of the land within any of the other zones could enable an undesirable form of development or a wider range of uses than that being considered. Consent may subsequently be granted for activities related to the primary activity. Permitted development may not be carried out other than in accordance with a rezoning agreement imposing reasonable and relevant development conditions, or a Plan of Development."*

The Table of Development applying to the Special Facilities Zone states that Permitted Development (that is development which does not require the consent of Council) includes:

> *"Development for any of the purposes specified on a Plan of Development*
>
> *Development for any of the purposes indicated by red or black lettering on the zoning maps."*

A 'Plan of Development' is defined in the relevant Planning Scheme as including any plan that is referred to in the conditions of approval and has been approved by Council. In the case of the subject land and Rezoning Application No.2135, the purposes specified on the Plan of Development (ie the Hulbert Group Concept Plan) were:

A.	Single family	98
B.	Mid-entry terraces	168
C.	Golf course terrace units (5-plex)	100
D.	Uphill townhouses	0
E.	Twin villas	18
F.	Downhill townhouses	148
G.	Condominiums	113
Site total		645
H.	Golf Club/Rec Club	
I.	Hotel	Rooms 150

The purposes indicated by way of red or black lettering on the zoning maps were "Special Facilities Zone as shown on Sheets 52/16 and 80/3". Those sheets referred to the actual Special Facilities zone details applying to the site. .

Clause 8.1.3 for the Special Facilities Zone sets out further parameters regarding development in this zone as follows:

> *"8.1.3.1 Any development within the Special Facilities Zone which would but for the provisions of this provision be for a permitted purpose shall, be deemed to be not for a permitted purpose but for a purpose requiring the consent of the Council, if the development is proposed to exceed:*
>
> *(1) two (2) storeys in height with a maximum height to ceiling level of the uppermost level of 7.5 metres above average finished ground level;*
> *(2) fifty percent (50%) site coverage.*
>
> *8.1.3.2 The requirement for paragraph 8.1.3.1 does not apply where such development has been approved in conjunction with a rezoning approval or forms part of an approved Plan of Development over the subject land."*

The proposal's relationship to the above is addressed in Section 5.2.2 [B] of this report.

3.5.3 Provisions for Housing Development

Section 12.4 of the Scheme contains provisions relating to various forms of housing development and sets out requirements for site cover, allotment size, landscaped areas and carparking.

3.5.4 Hinterland Density

Section 13.2 of the Scheme states that the Hinterland Density provisions apply to land which is included in the Rural Zone but not included in the Park Residential designation on the Strategic Plan. As such, the provisions do not apply to the site because it is zoned Special Facilities under the relevant Scheme, and part of the site is designated Park Residential (and part is Urban Residential) on the Strategic Plan map.

3.5.5 General Provisions

Section 14 of the Scheme contains general provisions for development.

3.5.6 Subdivision of Land

The subdivision of land is dealt with in Parts 16 and 17 of the Superseded Scheme and the relevant aspects are addressed in relation to the Reconfiguration of a Lot application in Section 7 of this report.

3.6 State Planning Policy 1/03

State Planning Policy 1/03 and its accompanying Guideline is 'Mitigating the Adverse Impact of Flood, Bushfire and Landslide' and is relevant to the site because of the potential effects of flood, bushfire and landslip associated with the development.

With respect to flooding, the golf course will occupy the low lying part of the site and there is no residential development proposed for flood prone land. Flood free access is available to the site and proposed structures on the site.

A bushfire risk assessment and management plan has been prepared by Bushland Protection Systems (refer to **Volume 5**). The need to appropriately plan for and manage the risk of bushfire was one of the elements that has been addressed in preparing the Advanced Concept Plan for the site, in terms of allowing buffer areas and locating development in areas of vegetation that can be cleared for housing as well as the required buffer zones.

Coffey Geosciences has undertaken investigations relating to the potential for landslip and their report is contained in **Volume 4**. Geotechnical investigations were one of the site conditions which has been analysed in refining appropriate areas for development in the Advanced Concept Plan.

Section 6 of the SPP Guideline notes that within natural hazard management areas development is to be compatible with the "nature of the natural hazard area" unless there is a development approval for the land.

3.7 Summary of Key Points

The relatively general nature of the existing approved Hulbert Group Concept Plan and rezoning conditions has made it necessary to review the background/application material to identify some specific details about the nature and extent of approved development.

In granting the existing approval, Council has approved:

- a height up to 3 storeys over parts of the site;
- building controls (including height) to minimise visual impacts of development on the site;
- roads on grades steeper than 16% and residential development on slopes greater than 20% (up to 35%);
- a residential density of up to 4.4 dwellings per hectare (or 5.4 including the hotel rooms);
- a basic footprint/site cover based on the Hulbert Group Concept Plan layout dated 10.11.89; and
- a mix of uses to be developed on the site.

4.0 THE PROPOSAL

4.1 Design Approach

Volume 2 contains the Site Planning and Design Guidelines Report which outlines the analysis and synthesis that has been undertaken to formulate the Advanced Concept Plan.

The process involved consideration of the approved Hulbert Group Concept Plan and conditions of approval, and detailed analysis of the site's features to refine and evolve the approved Hulbert Group Concept Plan. The following site conditions have been examined and are presented in various reports in Volumes 2-5:

- Slope and geotechnical considerations;
- flora and fauna;
- visual impacts;
- bushfire management issues;
- hydrology;
- infrastructure services;
- external road impacts.

Therefore the proposal in the form of the Advanced Concept Plan constitutes the evolution of the approved Hulbert Group Concept Plan and the conditions of the rezoning approval.

4.2 Concept Plan Overview

The Gold Coast Golf Resort Currumbin development includes the following components:

▪ single family lots	- 34 lots
▪ various units	- 307 dwellings
▪ golf course 5-plex	- 65 dwellings
▪ golf course twin villas	- 28 dwellings
▪ condominiums	- 120 dwellings
Total residential dwellings	***554***
▪ Hotel	96 rooms (configured as 48 dual key units)
▪ Golf Course	18 hole, international standard

Detailed design of the various dwelling units has not been undertaken however it is expected that they will include a mix of 2-3 bedroom product. The design guidelines for built form on the land are contained in Volume 2. The detailed designs would be addressed as part of preliminary approvals/development permit Building Works applications for each stage and/or further design concept information provided in response to Conditions 4, 5 and 11.

Other facilities forming part of the development include a clubhouse, pro shop, restaurant and recreation facilities such as swimming pools and tennis courts for use of the residents on site.

Building heights will be a mix of 2-3 storeys as outlined in the Site Planning and Design Guidelines Report. Reference should be made to Section 9.4.3 of that report which shows the building heights compared with the approved Hulbert Group Concept Plan and Appendix A of the same report which shows 2 and 3 storey height concepts.

Where practical, provision has been made for dwellings to contain a water tank.

4.3 Access and Carparking

Access into the golf and residential community is from two locations on Currumbin Creek Road. The indicative internal road layout is depicted on the Advanced Concept Plan.

All roads within the development will be private roads and will have a minimum width of 5.5 metres. This is necessary because of the grades involved in some of the internal roads, and the roads will be managed under the proposed Body Corporate scheme. The general maximum grade will be 16%, however there will be steeper grades over short lengths, up to 20%. Section 4.1.3 of the Infrastructure Services Report (Technical Report 2, Volume 4) provides further details on the design and operation of the internal road system.

The development will include pedestrian and cyclist paths throughout the development in appropriate locations. Pedestrian grades will not exceed 12%. It is intended that provision will be made for access by golf buggies where appropriate, including using the internal roads where possible and other paths.

Existing tracks on the land will be utilised where possible for walking paths and site management.

4.4 Visual Analysis and Landscape Intent

A Visual Analysis and Landscape Intent Report has been undertaken by Yurrah Landscape Solutions (refer to Volume 3). Visual representations have been prepared by ML Design (refer to Appendix B of Volume 2) and depict the visual appearance of the Advanced Concept Plan compared with the existing situation..

The Yurrah report indicates that approximately 64%, or 95 hectares, of the site is disturbed, although weed infestations affect the whole site.

The visual analysis demonstrates that there are distinct changes in landscape character as the site and adjacent areas are traversed. The site is in a transition zone between the more densely developed Currumbin Waters and the less developed rural parts of Cobaki Lakes in New South Wales. It is concluded that the visual values of the site when viewed externally will be maintained or enhanced as a result of the development.

The Yurrah Report contained in Volume 3 shows that about 10.4 hectares of vegetation in total will be removed, however with the substantial replanting scheme there will be a net increase of 18% of vegetated area on the site.

The report in Volume 3 also comprises an Open Space Management Plan and a management plan for ecological and landscape issues.

4.5 Design Guidelines

Volume 2 contains the Design Guidelines that have been prepared in relation to the Advanced Concept Plan and incorporate the following matters:

- Site design and orientation;
- Design for the sub-tropics;
- Patterns of design ;
- Architectural Guidelines;
- Landscape and Open Space Guidelines;
- Sustainable Guidelines;
- Body Corporate Guidelines.

4.6 Infrastructure Services

The following extract from the Infrastructure Services Report is relevant:

> *"...The dwelling design and access-ways shall have specific regard to the site topography. This means retention and augmentation of riparian corridors through adoption of water sensitive stormwater design, sensitive bridge and culvert designs and protection from scour of existing gully formations.*
>
> *The golf course shall incorporate design parameters for safety and environmental considerations. The golf course design shall not adversely influence flood conveyance, flood storage or flood risk. The finally constructed golf course will create an improved water-way riparian zone.*
>
> *New infrastructure works external to the site will include roadworks, water supply extensions, sewer extensions, recycled water main extensions, extensions to telecommunication and electricity supply. These services are proposed to be transferred post construction to the relevant supply agency as an agency asset. That is, it is proposed the external infrastructure services will not be "private works", as such these services will not be maintained by the development Body Corporates(s)."*

4.7 Site Based Management Plan

A Site Based Management Plan (Volume 5) has been prepared to manage construction and operation phases of the development, including development on steep slopes. The document provides details on policies, performance criteria and procedures to minimise the impact of the development on the physical and social environment. In particular the Management Plan provides monitoring and reporting mechanisms whereby the performance of the system can be measured and ensure that the agreed corrective actions are implemented in a timely manner if problems occur. It would be reasonable and relevant for Council to condition this Management Plan as forming part of the approval for the Reconfiguration, Operational Works and Building Works applications.

The Site Based Management Plan is intended to be a 'living' document in that it can be continually updated to address detailed design, construction and operation issues as required

5.0 ASSESSMENT OF PROPOSAL PLAN

5.1 Outline

This section of the report deals with the application that notifies of the intention to carry out development that was exempt or self assessable under the Superseded Planning Scheme. A comparative analysis of the approved Hulbert Group Concept Plan and the Advanced Concept Plan is provided for the purposes of confirming that the Advanced Concept Plan is in accordance with the Hulbert Group Concept Plan or alternatively that it should be approved in lieu of the Hulbert Group Plan.

Condition 1 of the March 1992 rezoning approval specifies that the approved development is to be *".....in accordance with concept plan 10.11.89 Hulbert Group unless otherwise approved by Council."*

The existing rezoning approval was an approval of a Concept Plan, subject to a number of conditions, including the requirement for further information and detailed investigation. Under Condition 1 of the approval, Council has the power to approve another plan. The existing conditions recognise that detailed design was required and that the approved Hulbert Group Concept Plan would be refined as a result of those further investigations.

The Advanced Concept Plan has been prepared having regard to the approved Hulbert Group Concept Plan and its conditions. A number of consultants have been engaged to undertake various assessments of the site in order to determine the appropriateness of development on the site and in particular the approved development concept and layout. The recent investigations that are related to complying with a number of the existing rezoning approval conditions have highlighted that the approved Hulbert Group Concept Plan needs refinement as we move to a detailed layout plan primarily because:

- Topographical constraints affect the approved road layout and the location of some of the approved buildings;
- Flora and fauna investigations have resulted in a decrease in the density of the development and changes to the placement of building sites;
- Technological improvements in golf equipment since the Hulbert Group Concept Plan was approved and resulting increases in 'safety margins' has necessitated a change to the layout of the golf course;
- There are slope stability issues in some parts of the site previously approved for development;
- There is a need to alter the positioning of some roads relative to gradient and the desire to minimise cut and fill; and
- Appropriate measures are needed to manage bushfire risk.

The impact of complying with these conditions is that the Hulbert Group Concept Plan evolves to the Advanced Concept Plan. Such an evolution was always going to occur in the detailed design process, and as the impact of the conditions of approval became evident. The changes which have occurred in this process invariably produce a better outcome for the site. The Advanced Concept Plan includes design

guidelines and parameters for the different components of the Gold Coast Golf Resort Currumbin which provide a greater level of clarity regarding the development parameters associated with the approval.

5.2 Assessment of the Concept Plans

5.2.1 Outline of the Plan Similarities and Differences

Table 5.1 summarises the similarities and differences in the quantifiable aspects of the development compared to the approved Hulbert Group Concept Plan.

TABLE 5.1: COMPARISON OF CONCEPT PLAN ELEMENTS

ELEMENT	HULBERT GROUP CONCEPT PLAN	ADVANCED CONCEPT PLAN
Single Family (detached house lots)	98	34
Various units	316	307
Golf Course Terrace Units (5-plex)	100	65
Twin Villas	18	28
Condominiums	113	120
Total	***645***	***554***
Hotel	150 rooms (75 x two-bedroom units)	96 rooms (48 dual keys)
Golf Club/Rec Club	Provided	Provided
Golf Course	18 hole championship course 60 ha land area	18 hole championship course 53.5 ha land area
Open Space/landscape provision	Approximately 50 hectares	Approximately 70 hectares
Recreation facilities	Tennis courts and pools are included	Tennis courts and swimming pools are included
Building heights	Maximum 3 storeys, however maximum 2 storeys in certain precincts	Maximum 3 storeys, however maximum 2 storeys in certain precincts
Precincts	Precincts A-I however these are not delineated on the approved Hulbert Group Concept Plan (they are delineated on the precinct plan and building height controls – refer to Section 3 of this report)	Staging/precincts are proposed.
Maximum slopes for residential development	35%	30%
Maximum grade of roads	Steeper than 16%	Generally a maximum grade of 16% however some steeper sections over shorter lengths.

An overlay of the two concepts is provided in **Appendix C** and the features are discussed in section 5.2.2 below.

5.2.2 Assessment

The following criteria are relevant to Council's consideration of the use application and the Advanced Concept Plan:

- Types of uses/elements;
- Density and Layout;
- Height;
- Slope/grade;
- Access into the site; and
- Visual impact.

A. Types of Uses/Elements

Both the approved Hulbert Group Concept Plan and the Advanced Concept Plan contain the same types of uses, being detached residential lots, attached housing, hotel, 18 hole golf course, clubhouse/rec club and recreational facilities for residents.

The Advanced Concept Plan replaces the previous residential categories of 'mid entry terrace units' and 'downhill terraces' with the one category of 'townhouses'. The range of residential product in the Advanced Concept Plan is considered to be in accordance with the approved development.

The approved development was clearly for a golf course and residential resort style development and that remains the case with the Advanced Concept Plan.

The March 1992 approval conditions refers to a "shopping area", however the nature and extent of this use is not apparent on the approved Hulbert Group Concept Plan. A Traffic Report prepared by Connell Wagner in October 1992 refers to the inclusion of a retail area of about 400m² and a restaurant of 400m² for use by resort guests and site residents. It is understood from the 1992 traffic report and Condition 10 of the March 1992 approval that these facilities were to be provided as part of the golf club and/or hotel complex.

The background material to the original application indicates that the approved hotel included a coffee shop, bar, dining area and conference room.

The Gold Coast Golf Resort Currumbin will include a pro shop and a bistro/restaurant at the golf club for use by guests of the golf club facility.

Planning Scheme Provisions Relating to Use

The provisions of the Scheme relating to the Special Facilities Zone and the approved uses is relevant to the consideration of whether the Advanced Concept Plan uses are similar to those approved in association with the Hulbert Group Concept Plan.

From the 1988 Scheme under which the rezoning was given the definitions of the residential uses included the following:

"Accommodation unit" – any premises used or intended for use for residential purposes, not being a purpose elsewhere herein defined. The term includes a boarding house, flat, guesthouse, home unit, hostel, serviced apartment, serviced room or townhouse; and

"Dwelling house: - any premises which comprises or is intended to comprise a single dwelling unit on one site and any ancillary out buildings. The term does not include a caretaker's residence as herein defined."

The current proposal is consistent with those elements.

Part 8 of the 1995 Albert Shire Planning Scheme relates to the Special Facilities Zone, and relevant components are:

- Clause 8.1.1 states the intent of the zone. This includes "... Permitted Development may not be carried out other than in accordance with a rezoning agreement imposing reasonable and relevant development conditions, or a Plan of Development";
- The Table of Zone for the Special Facilities Zone contained in Clause 8.1.2 provides for permitted development, consent development and prohibited development.
- Clause 8.1.3 relates to building height and this is discussed in Part C below.

Permitted development in Clause 8.1.2 includes:

"Development for any of the purposes specified on a plan of development"
and

"Development for any of the purposes indicated by red or black lettering on the zoning maps."

Under the 1995 Albert Shire Planning Scheme the term 'Plan of Development' was defined in relation to the Special Facilities Zone as meaning:

*"Any plan which is referred to in conditions of approval **having been approved** by Council:*

(a) as part of the rezoning of a particular site for inclusion in the Special Facilities Zone." (emphasis added)

In relation to the above provisions, the Gold Coast Golf Resort Currumbin is consistent with the intent of the Special Facilities Zone which is to accommodate particular forms of development which can be particularised by nominated uses and an associated plan of development. The approved Hulbert Group Concept Plan is a 'plan of development' in the context of the above provisions as it was approved in connection with rezoning conditions approved by Council. Co-You Australia as owner of the land and as Applicant has produced the Advanced Concept Plan as an evolution of the approved Hulbert Group Concept Plan. The Advanced Concept Plan would become the approved Plan of Development for the purposes of Clause 8.1.2 above.

B. Density and Layout

The 645 dwellings in the Hulbert Group Concept Plan equate to a density of 4.4 dwellings per hectare or 5.4 including the 150 hotel rooms. The 554 dwellings in the Advanced Concept Plan equate to a dwelling density of 3.7 dwellings per hectare. Including the 96 hotel rooms, the Advanced Concept Plan site density is 4.4 dwellings per hectare.

The development density remains clustered around a central spine and radiating smaller spines, with detached house lots along the north-east ridge.

The hotel and golf club remain centrally located in both plans, and that is consistent with the approval conditions.

The size of the hotel has decreased from 75 two-bedroom units with 150 rooms, to 46 dual key units with a total of 96 rooms. The reduction in the number of rooms associated with the hotel component does not significantly alter its purpose or change the nature of the style of the development – namely a golf resort and residential community.

There are 91 fewer residential dwellings in the Advanced Concept Plan compared to the maximum of 645 dwellings on the Hulbert Group Concept Plan.

The reduction in the total number of detached house lots from 98 to 34 has allowed for a greater degree of clustering of residential product on the site. This enables a greater degree of protection of the environment and the ability to manage sensitive areas of the site within Body Corporate management structures and open space areas.

The residential product is clustered in smaller groupings and shorter building lengths than the approved development which allows for greater spacing between building clusters. This in turn enhances the on-site visual appearance of the development, and the degree of vegetation retention and landscape enhancement.

The condominiums along the north facing ridge were relocated down to the shallower slopes behind the golf clubhouse to reduce impacts on the existing trees and steep slope.

The southern part of the site has changed in layout due to the findings of the flora and fauna investigations as reported on by Planit Consulting (refer to Volume 4). In particular, there is now a contiguous area of about 24 hectares for public park in this part of the site, whereas previously there were 30 detached house lots and a number of attached dwellings and a smaller park area.

The frontages of the ridgeline housing blocks along the north east boundary have altered from what appears to have been 30 metre frontages to allotments with varied frontages. The change in this area has resulted from the site investigations and the relocation of some house blocks now removed from the environmentally sensitive southern part of the site. However there is now a greater separation between groupings of allotments and there appears to be a greater separation between the detached lots and attached housing.

The Advanced Concept Plan excludes lots and units in the eastern upper levels of the previously approved Precinct C in order to preserve the existing Blackbutt and open Eucalyptus forest and other areas identified as critical to flora and fauna preservation.

The golf course remains in the eastern part of the site, which is the flatter land. Both golf courses are 18 hole championship courses. In the period since the original approval, golf course design safety margins have changed resulting in changes to the layout and separation from residential uses. The new golf course will have longer fairways due to changes in technology in the last 10 years and the distance golfers can now hit. They are also wider to incorporate bigger safety margins between golfers, and between golfers and residential uses.

Whilst the golf course appears to be smaller in size (now 53.5 hectares instead of 60 hectares), there has not been a corresponding increase in the built development area of the site, rather the proportion of open space/landscaped area has increased.

The principal points of access to the site are essentially the same however the internal layout has changed to address site constraints and issues identified in the conditions. Refer to Part E below in relation to site access.
The internal road layout is based on the approved Hulbert Group Concept Plan, modified to take into account the physical gradients and appropriate engineering practices to suitably locate and grade the roads.

There has also been a rationalisation of direction and length of roadways to ensure feasibility of servicing the buildings.

Some of the internal roads have been removed in the Advanced Concept Plan and those remaining have been realigned lower down the face of the hills to reduce the impact on the environment. The road system in the northern end of the site has changed to retain existing stands of trees and reduce cut and fill where possible. This in turn has resulted in a change of unit distribution.

From a town planning viewpoint, the reduction in density and the layout changes are acceptable in terms of the consideration of whether the Advanced Concept Plan is in accordance with, or alternatively should take the place of the approved Hulbert Group Concept Plan. The reduced density does not alter the primary purpose or intent of the development which is a golf and residential resort community.

It is relevant that the reason for the density reduction and layout changes is related to investigation and consideration of matters identified in the existing rezoning conditions, many of which were related to further design considerations/site investigations. The Advanced Concept Plan is based on the further consideration of the relevant aspects to determine an appropriate yield and layout, including investigation of slope, vegetation, fauna, and preparation of design guidelines for the development.

C. Height

When the 1992 approval was given the approval related to a maximum of 645 accommodation units and dwellings (plus 150 hotel rooms) however the concept plan layout was not changed from the 1989 approved Hulbert Group Concept Plan which was based on 450 residential dwellings. To achieve the approved yield, a reasonable conclusion would be that building heights must have exceeded the two storey/7.5 metre height limit that applied to the Special Facilities Zone.

As discussed in Section 3.3 of this report, Condition 7 of the 1989 rezoning approval referred to a precinct plan and building height controls dated the 30th November 1988. Whilst not specifically referred to, it seems quite evident from the rezoning conditions of approval that those documents were related to the approved use for the site as there are specific references in some of the conditions to information that is not contained on the approved Hulbert Group Concept Plan however, is depicted on the precinct plan and/or in the height control document. In particular, the following conditions necessitate reference to the Hulbert Group Precinct Plan and Proposed Building Height Controls document in conjunction with the approved Hulbert Group Concept Plan to understand the meaning of the conditions:

- Condition 6 which refers to housing area A;
- Condition 7 which relates to dedication of public park;
- Condition 8 – which requires the provision of public parking spaces on Piggabeen Road;
- Condition 10 – which refers to 'shopping area H'.

In accepting the Advanced Concept Plan in place of the Hulbert Group Concept Plan, it is appropriate to provide increased clarity on the approved uses, including height, and hence the Advanced Concept Plan refers to the maximum building heights and the Site Planning and Design Guidelines Report.

The front cover of the building height control document that is related to the existing approval states: *"All building heights refer to the definition according to the Building Act 1975, Division 5, Part 17."* A review of that Act indicates that there was no height specification for a 'storey'.
The 3 storey precincts in the Hulbert Group Concept Plan were located adjacent to the golf course, at the hotel in the centre of the site and the adjoining hotel condominiums, on some of the uphill slopes overlooking valleys in the north-east and southern part of the site and the valley terrace units in the north-west part of the site. The two storey precincts were the detached house lots, the ridgetop townhouses in the southern part of the site (precinct F), and the twin villas located near the golf course (precinct E).

Section 9.4.3 of the Site Planning and Design Guidelines Report compares the building heights and demonstrates that the Advanced Concept Plan is consistent with the approved Hulbert Group Concept Plan.

D. Slope/Grades

In granting the existing approval, Council effectively approved development to occur on slopes greater than 20% and approved roads having a slope greater than 16%.

The current proposal retains development to slopes of 30% or less, whereas it is understood that the approved Hulbert Group Concept Plan included development on slopes as high as 35%.

E. Access into the Site

The access points are close to those on the Hulbert Group Concept Plan. They could vary by up to 30 metres due to current Australian road design standards and sight line/safety margin requirements. Taking into account the dimensions of the site, any variation of the proposed magnitude is not considered to be significant in relation to the overall concept and intent of the development.

F. Visual Impact

A visual assessment of the Advanced Concept Plan has been undertaken by Yurrah Landscape Solutions (refer to **Volume 3**), and an extract from pages 19-20 of that report is provided below.

> *"... it is evident that a number of regional and local vantage points, including rural, residential, institutional and recreational areas and transport corridors, offer varying types of views into the subject site.*
>
> *Clear views into the lower slopes and floodplain of the site from the north are limited to views across existing grassland from Currumbin Creek Road towards vegetated or grassed foothills. Limited views are obtainable from further to the north, predominantly of the upper vegetated hill slopes and major ridgelines of the site. The character of these views is to be retained by the advanced proposal.*
>
> *Views of the subject site from the east are limited by an existing band of trees along the eastern site boundary. The preservation of this vegetation is critical to maintaining the character of views from thousands of residences within Currumbin.*
>
> *Views into the subject site from the west, as with views from the north, are limited to views across existing grassland from roadways. The character of these views is also to be preserved by the advanced proposal.*
>
> *The above visual values have been summarised further within drawings LA.01- Visual Catchment Plan and LA.02 – Visual Sensitivity Analysis ... Based on the this analysis and that*

presented in the above-mentioned two drawings, the advanced proposal will preserve the character of existing views to the subject site."

As discussed in Section 3.4 of the Yurrah Landscape Solutions report, the following landscape solutions are inherent in the Advanced Concept Plan based on the visual analysis:

> ***"Retaining the Existing Character of Views Across Open Grassland***
>
> *... the views across open grassed areas of the site are perceived by observers travelling along Currumbin Creek Road and Piggabeen Road. The character of these views as grassland with scattered trees will be retained through the appropriate future use of the existing floodplain area as a golf course (a use that is either similar or visually compatible with the current use for grazing), together with the retention and enhancement of screening vegetation along Currumbin Creek Road.*
>
> *In most cases, these grassland views terminate in views of the vegetated foothills. The character of these views will also be preserved by retention of existing riparian vegetation in this vicinity. Development in the foothill areas will need to be appropriately designed and screened with a combination of retained existing vegetation and proposed new planting to soften the built form. ...*
>
> ***Retaining the Existing Character of Views to Prominent Ridgelines***
>
> *The importance of retaining the existing character of major ridgelines and vegetated hill slopes on the subject site is acknowledged above. Of particular significance is the retention of existing vegetation along the border ridgeline and the reinstatement of vegetation on the upper hillslopes, especially in the areas shown to be rehabilitated ...*
>
> *The existing band of vegetation along the eastern boundary of the subject site will also be crucial to preserving the character of views towards the site from the expansive urban areas of Currumbin Waters to the East."*

When viewed from the road the buildings would be very small/not really discernable as the dominant feature will be the hillsides and tree canopy (this is because the buildings are away from the road).

Reference should be made to Appendix B of Volume 2 which contains the visual representations of the proposed development. Images of the Advanced Concept Plan have been prepared as seen from a number of viewpoints and compared with the existing situation.

5.3 Conditions of Existing Approval

The purpose of this section of the report is to examine the conditions of the March 1992 rezoning approval and to demonstrate that the Advanced Concept Plan maintains compliance with the approval conditions. The conditions are addressed in turn below.

The Applicant and owner of the land is prepared to accept the conditions set out in Appendix A. As has been discussed elsewhere in this report, the Advanced Concept Plan has been prepared by undertaking the various studies referred to in the approval conditions and therefore constitutes an evolution of the Hulbert Group Concept Plan. The Advanced Concept Plan further clarifies the extent of approved development by way of reference to design guidelines, including height controls.

Condition 1: *"Development is to be in accordance with concept plan 10.11.89 Hulbert Group unless otherwise approved by Council."*

Response: The proposal's compliance with Condition 1 has been discussed above. It is concluded that the Advanced Concept Plan is the appropriate evolution of the Hulbert Group Concept Plan for the reasons discussed in Sections 5.1 and 5.2 of this report.

Condition 2: *"Dedication of a minimum of 6,000m² of parkland adjacent to Currumbin Creek Road to Council's requirements"*

Response: The land referred to in this condition is known as Lot 3 on RP82364 and does not form part of the subject land. The intention is to provide the required park in accordance with the approval condition. It would be the Applicant's intention to provide this park at the same time that the first stage of development occurs.

Condition 3: *"Submission of a tree clearing plan for approval of the Shire Engineer, prior to any clearing of the site."*

Response: The Advanced Concept Plan has been prepared following an extensive assessment by Planit Consulting regarding the ecological significance of the site - refer to Technical Study 1 contained in Volume 4.

An application for Preliminary Approval for Operational Works for tree clearing is also being sought from Council and the Visual Analysis and Landscape Intent report depicts the proposed extent of works.

Condition 4: *"The company is to establish design controls on the ridge top housing with a view to minimising cut/fill and driveway earthworks to the satisfaction of the Shire Engineer. Housing in this area should be constructed of predominantly subdued colours."*

Response: ML Design in conjunction with Bligh Voller Nield has prepared Design Guidelines for the development and these are contained in Volume 2 of the application documentation. These guidelines address colours and materials as well as the approaches to minimising the extent of cut and fill. A number of other aspects are also dealt with in the Design Guidelines.

Condition 5: *"Submission of detailed concept plans for all stages of the development for Council approval prior to building approval or subdivision application."*

Response: The subject application includes a comprehensive set of Design Guidelines to which development in each stage will need to comply with. An application is also being made for Reconfiguration of a Lot which is integrally based on the Advanced Concept Plan. Building approval applications will also be required for the various stages/precincts. It is considered that the development and applications are consistent with the intent of this condition as the design information for the various stages is being provided as part of the applications.

Condition 6: *"No house lots are to have direct access to Piggabeen Road. Provision of a 3 link strip along the full length of Piggabeen Road adjacent to housing areas A."*

Response: As shown on the Advanced Concept Plan, no house lots will have access to or from Piggabeen Road. Under the Hulbert Group Concept Plan some detached residential allotments were located in the southern part of the site, however this is no longer the case. The requirement for a 3 link strip will be complied with.

Condition 7: *"The proposed hillside open space is to be set aside as a Park open to the public."*

Response: The Hulbert Group Proposed Precinct Plan (refer to Section 3 of this report for the background to this plan) depicts the hillside open space area referred to in this condition. That park is in the southern part of the site. The park proposed as indicated on the Advanced Concept Plan (and the proposed reconfiguration plans) occupies a similar location however is larger in that it extends to the New South Wales border and Piggabeen Road in this part of the site as a result of the desire to retain flora and fauna habitat. The proposed park is now about 24 hectares.

In accordance with the condition, the public park shown in the subject applications is also proposed to be set aside for park that is open to the general public, and it is proposed to be dedicated to Council to maintain that function.

Condition 8: *"Provision of a public car parking area for eight (8) cars on Piggabeen Road to be located and constructed to Council standards at the Applicant's cost."*

Response: The Hulbert Group Precinct Plan (refer to Section 3 of this report) shows 6 visitor spaces on Piggabeen Road. The 8 spaces required in accordance with this condition will be provided.

Condition 9: *"All the existing hoop pine trees on Currumbin Creek Road and other special species on the property as determined by Council are to be retained and maintained in a healthy condition."*

Response: The existing hoop pine trees on Currumbin Creek Road will be retained. Planit Consulting has undertaken an ecological assessment of the site and the Advanced Concept Plan and has identified flora and fauna habitat that is to be retained (refer to Technical Report 1 in Volume 4). The report and plans prepared by Yurrah (Volume 3) show the extent of proposed tree clearing and reference should be made to those documents for further details.

Condition 10: *"The proposed shopping area H is to be located in the centre of the development and near the hotel as approved by Council."*

Response: A golf pro shop and restaurant will be provided in the central golf course facilities.

Condition 11: *"All housing development is to be integrated with the ridgeline to the requirements of the Shire Engineer."*

Response: The Advanced Concept Plan has been prepared following site investigations of slope, geotechnical, flora and fauna and visual impact considerations. Design Guidelines have been prepared and are referenced on the Advanced Concept Plan. Council could also

impose reasonable and relevant conditions on the applicable Preliminary Approval and Development Permit applications associated with the development.

Condition 12: *"This rezoning approval is only for the following zones:-*

Special Facilities – Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), Hotel (maximum 150 rooms)."

Response: The Gold Coast Golf Resort Currumbin is consistent with the approved Special Facilities zoning as discussed in earlier sections of this report.

Condition 13: *"Payment of headworks contributions assessed on detailed development plans, and at Council's rates current at date of payment to be made prior to commencement of development (ie building, subdivision of land)."*

Response: The proposal will comply with this condition.

Condition 14: *"Compliance with all of the requirements of the Town Plan, and all Council bylaws regarding the use of the land. A building approval is to be obtained prior to any building or structure being erected on the land."*

Response: Reference should be made to Sections 3.5 and 3.7 of this report.

Condition 15: *"Unless otherwise approved by the Shire Engineer, no filling to be placed on the land and no building development to be located below the flood level in accordance with Council Policy."*

Response: The proposal will comply with this requirement.

Condition 16: *"A report from a qualified engineer as to the extent and nature of fill proposed shall be submitted for the approval of Council, prior to filling operations commencing."*

Response: The development will comply with this requirement.

Condition 17: *"The eastern access to the Currumbin Creek Road is to be designed for a 60km/hr through speed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include channelisation and overhead street lighting.*

Access is to be by way of existing access to the property, upgraded in accordance with Council and Main Roads Department requirements at the applicant's cost. No trees are to be removed without the prior approval of Council.

Dedication of the land required for the future southern carriageway of Currumbin Creek Road, at no cost to Council.

The intersection at Tierney Drive is to be designed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include overhead lighting and channelisation. "

Response: The development has been designed to be a low speed environment.

Access in the Advanced Concept Plan has evolved from the more detailed design considerations and is in accordance with Hulbert Group Concept Plan as discussed in Section 5.2 above.

The required 20 metre road reserve was dedicated to Council in 1993 for the purposes of satisfying part of this condition. That road reserve area is now formally road and not part of the site.

The part of the condition relating to the intersection at Tierney Drive will be complied with.

Condition 18: *"Construction of a 1.8 metre concrete bikeway/footpath is to be constructed* [sic] *along Currumbin Creek Road from Tierney Drive to the eastern extent of the site."*

Response: This condition will be complied with.

Condition 19: *"Provision shall be made for all site drainage and stormwater runoff to be channelled to the road, or drainage outlet designed by Council."*

Response: This condition will be complied with.

Condition 20: *"The development is not to pollute Currumbin Creek."*

Response: This condition will be complied with.

Condition 21: *"The use shall be conducted in such a manner as not to interfere with the amenity of the neighbourhood by reason of noise, vibration, fumes, soot, waste products, lights or anything whatsoever."*

Response: This condition will be complied with.

Condition 22: *"Provision shall be made for the land to be maintained in a clean and tidy state at all times. Satisfactory arrangements shall be made for the collection, storage and disposal of all waste materials, with placement of industrial bins in accessible locations."*

Response: This condition will be complied with.

Condition 23: *"Connection of the land to Council's reticulated sewerage scheme at a point nominated by Council, at full cost to the applicant, and including upgrading of the existing system as necessary."*

Response: The sewerage infrastructure requirements have been addressed in the Infrastructure Services Report (refer to Technical Study 1 in Volume 4) Upgrading requirements and a point for the connection are nominated in that document. It is proposed that the required pump station could be located in adjoining Lot 3 on RP82364 which is to be developed as public park in accordance with the existing rezoning approval conditions.

Condition 24: *"Connection of the land to Council's water supply system at full cost to the applicant, including upgrading of the existing system as necessary."*

Response: The water infrastructure requirements have been addressed in the Infrastructure Services Report (refer to Technical Study 2 in Volume 4.

Condition 25: *"No tree clearing is to be carried out except with the prior approval pursuant to Bylaw 30."*

Response: An application for Preliminary Approval for Operational Works for tree clearing is also being sought from Council and Volume 3 contains a plan showing the extent of clearing. It is understood that in accordance with Section 74 of the Vegetation Management Act that tree clearing approval is not required from the Department of Natural Resources, Mines & Energy because of the site's Special Facility zoning prior to the coming into force of that Act.

Condition 26: *"Siteworks, construction works or the like shall be conducted only between the hours of 7am and 6pm Monday to Friday inclusive. No such works shall be carried out outside these hours or on Saturdays, Sundays or public holidays, unless specifically approved by Council."*

Response: The development will comply with these requirements.

Condition 27: *"All conditions of this approval are to be fully complied with and a certificate of classification pursuant to the provisions of the Building Act is to be obtained before buildings are occupied."*

Response: The development will comply with this requirement.

Condition 28: *"These conditions shall continue to apply upon gazettal of the proposed rezoning."*

Response: This condition is noted.

Condition 29: *"Construction of two entrances to the property to the Main Roads Department and Council's standard including channelisation and lighting."*

Response: The current proposal includes two access points from Currumbin Creek Road in a similar location to that approved on the Hulbert Group Concept Plan and the proposal will comply with the requirements of the Department of Main Roads with respect to channelisation and lighting and any other relevant aspect.

Condition 30: *"Construction of the intersection of Galleon Way and Currumbin Creek Road including channelisation and lighting to the Main Roads Department and Council's standards."*

Response: This condition will be complied with.

Condition 31: *"Full construction of the 6,000m² park on the north side of Currumbin Creek Road including levelling, grassing, landscaping, construction of BBQ and shelter structure, as approved by Council."*

Response: This condition will be complied with.

Condition 32: *"Submission of a landscape plan for approval of the Shire Engineer, prior to the issue of any Building Application or subdivision approval."*

Response: A Visual Analysis and Landscape Intent Report forms part of this application and subsequent landscape details will be provided to Council in the relevant operational works applications. A Development Permit for Reconfiguring a Lot is being sought, however Council could condition that application with respect to the provision of detailed landscape plans for the various stages.

Condition 33: *"Construction of the facilities shown on the plan and landscaping to be completed prior to the issue of survey plans or Certificate of Occupancy for any units."*

Response: The development depicted in the Advanced Concept Plan will be constructed in stages in accordance with the proposed Reconfiguration plans. The required works for each accommodation unit and dwelling house will be carried out before the issuing of any necessary certificates of occupancy.

Condition 34: *"Provision of public toilets in the boat shed which is to be built adjacent to the park."*

Response: The terms of this condition will be complied with.

Condition 35: *"The maintenance of the balance of the land on the north side of Currumbin Creek to Council's satisfaction to enhance the appearance of the park."*

Response: It is assumed that this condition refers to Lot 3 on RP82364, and the condition will be complied with.

Condition 36: *"Dedication of the land required for the future southern carriageway of Currumbin Creek Road (20 m width) at no cost to Council."*

Response: The road dedication required in this condition has already been provided and the land reconfigured accordingly after the approval was issued in March 1992.

Condition 37: *"Payment of $500 per unit for the 195 additional units approved by Council prior to building approval or the release of survey plans (ie $97,500 towards the upgrading of Currumbin Creek Road.)"*

Response: This condition will be complied with.

Condition 38: *"Payment of $550 per additional unit after the first 450 units to be paid at the time of lodgement of building plans, for the upgrading of Currumbin Creek Road."*

Response: This condition will be complied with.

As demonstrated by the above assessment the development can be undertaken in accordance with the existing rezoning approval conditions.

6.0 PRELIMINARY APPROVAL FOR BUILDING WORKS (BUILDING HEIGHT)

A Superseded Planning Scheme Application is being made for Preliminary Approval for Building Works (Building Height).

The Advanced Concept Plan includes a notation with respect to the height of building which cross references the Site Planning and Design Guidelines Report (Volume 2), and the development includes a mix of 2 and 3 storey buildings.

Section 9.4.3 of the Design Guidelines provides a comparison of the approved Hulbert Group Concept Plan and the Advanced Concept Plan with respect to nominated heights and the Advanced Concept Plan is consistent with the approved plan.

Appendix A of Volume 2 conceptually depicts the intended 2 and 3 storey height treatment on the site.

7.0 RECONFIGURATION COMPONENT

7.1 Proposed Development Lots

Application is being made under the Superseded Planning Scheme for a Development Permit for the Reconfiguration of a Lot.

The drawings prepared by PMM depict the proposed staged subdivision for the Gold Coast Golf Resort Currumbin.

The first stage will comprise 3 lots plus public park to create the golf course and hotel lots and a balance residential lot.

The next phase will be a series of subdivisions to create Lots 301-309 as shown on the reconfiguration drawings. The order of the subdivisions is not known at this stage.

A precinct plan has been prepared by PMM to convey the relationship between the Advanced Concept Plan and the staged subdivision. That plan would is for information purposes and would not form part of the stamped set of approved reconfiguration plans.

The park located in the south eastern part of the site is proposed to be dedicated to Council to allow for community benefit/access. This park has an area of about 24 hectares.

The development is proposed to be managed under a layered principal body corporate scheme and an overview of the proposed structure has been prepared by Stewart Silver King and Burns and is contained in Appendix C.

7.2 Assessment Under the Superseded Planning Scheme

Sections 16 and 17 of the Superseded Planning Scheme contain provisions relating to the subdivision of land including staged subdivision and group title subdivision.

There are no minimum allotment sizes or 'frontage to depth' ratios for land in the Special Facilities zone. For the reasons set out in Section 3 of this report, the hinterland density provisions do not apply in this instance.

Flood free access is available to the site and a substantial public park dedication is proposed, in addition to the provision of a park and recreational facilities external to the site that is required in accordance with the existing rezoning approval conditions.

The site and the development precincts can be provided with the appropriate urban services as identified in the subdivision requirements in the Superseded Planning Scheme.

Section 16.15.8 of the Superseded Planning Scheme relates to the grade of roads in group title developments and refers to the desirability for a maximum vehicle access grade of 20% and an absolute maximum of 25%. The proposed development is consistent with that intent.

7.3 Assessment Under the P&E Act

Section 5.1(3) of the Local Government (Planning and Environment Act) 1990 (the 'P&E Act'), sets out matters for the consideration by Council for subdivision (reconfiguration) proposals. This section of the report addresses the matters to the extent that they are relevant to the proposed development and the staged application. Section 5.9(3) of the P&E Act sets out matters for Council to consider in assessing applications for staged subdivision and those considerations are covered by the matters contained in Section 5.1(3) which are addressed below. In accordance with Section 6.1.29 of the IPA, Sections 5.1(3) and 5.9(3) of the repealed Act are relevant to the assessment of the Reconfiguration application as the Superseded Planning Scheme is a transitional Planning Scheme.

(a) The proposed use of each of the proposed allotments

The proposed use of the allotments are reflected in the PMM staged subdivision plans. There will be a golf course lot, a hotel lot, a public park allotment and the balance of the site will be for residential purposes, including recreational facilities for residents of the site.

(b) Whether any proposed lot would be unsuitable for use because of possible inundation, subsidence, slip or erosion

The Advanced Concept Plan and the subdivision drawings are based on the investigations and analysis of the site's physical conditions as presented in Volumes 1-5 of the application material and the proposed development is considered to be suitable for the use proposed. The investigations conducted include geotechnical and hydrology assessments.

(c) The size, shape and utility of each of the proposed allotments

The size and shape of the proposed allotments are appropriate for the proposed uses and the physical characteristics of the site.

(d) The impact of the proposal on the environment

The documentation in Volumes 1-5 assess the suitability of the proposed development.

(e) Whether public utility services should be made available to the proposed allotments

The Infrastructure Services Report (Volume 4) addresses this aspect.

(f) The proposed method of disposal of drainage and whether this would have a detrimental effect upon neighbouring lands

Reference should be made to the Infrastructure Services Report (Volume 4) and the stormwater management strategy contained in Volume 5.

(g) Whether drainage reserves are required and whether land for these should be surrendered free of cost to the Crown

Reference should be made to the Infrastructure Services Report (Volume 4) and the stormwater management strategy contained in Volume 5.

(h) Any possible traffic generation and the effect of this upon the road system in the locality

Reference should be made to the Traffic Report prepared by Connell Wagner in Volume 4.

(i) The length of road frontage to each of the proposed allotments

This aspect would be dealt with in subsequent staged applications for reconfiguration.

(j) The proposed means of access to each of the proposed allotments

Access to each dwelling will be from the private internal access roads.

(k) Whether the planning of road junctions and intersections of roads will facilitate the safe flow of traffic and whether truncation of land abutting road junctions and intersections will be required

Reference should be made to the Traffic Report prepared by Connell Wagner in Volume 4.

(l) Whether kerbing and channelling will be provided

It is proposed to limit the amount of kerbing on site to minimise site impacts and to add to the low density amenity of the development.

(m) Whether provision should be made for parks

A large public park is proposed in the more significant vegetated part of the site and this is proposed to be dedicated to Council and available to the public. In accordance with the existing rezoning approval conditions a public park with recreation facilities is required to be provided external to the subject site.

(n) Whether the applicant should be required to destroy any noxious weed or plant existing on the proposed allotments

The presence of weed infestation is discussed in the Visual Analysis and Landscape Intent Report and this aspect can be appropriately conditioned.

(o) Whether in accordance with a Planning Scheme provision, underground electricity should be provided

It is intended to provide underground electricity and this aspect can be appropriately conditioned.

(p) Whether the applicant should contribute towards the capital cost of street lighting to serve the proposed allotments

This aspect can be appropriately conditioned.

(q) Whether the position of water, sewerage, gas, telephone or electricity mains and kerb and channelling or road drains should be indicated on the proposal plan

Due to the size and scale of the site and proposed development and the staged nature of the subdivision, it is not relevant to show these features at this stage.

(r) Whether provision should be made for conduits across any road as will enable water, sewerage, gas, electricity or telephone service lines to be laid to connect the mains with the proposed allotments fronting the road

This aspect can be appropriately conditioned.

(s) The provisions of the Planning Scheme which regulate the subdivision of land

This aspect has been addressed in Section 7.2 above.

(t) Whether an approval is required pursuant to another Act

Tree clearing approval is not required under the Vegetation Management Act because of the exemptions that apply under Section 74 of that Act with respect to the Special Facility rezoning applicable to the site. Any required approvals can be dealt with at the appropriate time.

8.0 OPERATIONAL WORKS COMPONENT

8.1 Overview

Application is being made for Preliminary Approval under the Superseded Planning Scheme for tree clearing, road layout and gradient and water and sewerage infrastructure.

8.2 Tree Clearing

Reference should be made to the Visual Analysis and Landscape Intent Report (Volume 3) and the Ecological Assessment (Volume 4) for details on the flora and fauna characteristics of the site and the tree clearing proposed.

A total of about 10.4 hectares is proposed to be cleared, however substantial landscaping and rehabilitation will result in a net increase of vegetation area on the site in the order of 18%.

Tree clearing approval is not required under the Vegetation Management Act because of the exemptions that apply under Section 74 of that Act with respect to the gazetted Special Facility rezoning apply to the site.

8.3 Road Layout and Gradient

Reference should be made to the Infrastructure Services Report (Technical Report 2 in Volume 4 for details of the road layout and gradients for the Gold Coast Golf Resort Currumbin.

8.4 Water and Sewerage Infrastructure

Reference should be made to the Infrastructure Services Report (Technical Report 2 in Volume 4) for details of infrastructure requirements.

Infrastructure services will be constructed in stages.

9.0 CONCLUSION

This report has addressed the relevant town planning considerations associated with the Superseded Planning Scheme applications for the Gold Coast Golf Resort Currumbin.

Volumes 1-5 of the application documentation are relevant to each of the applications being made.

This report primarily deals with the application that notifies of the intention to carry out development that was exempt or self assessable under the Superseded Planning Scheme. A comparative analysis of the approved Hulbert Group Concept Plan and the Advanced Concept Plan is provided in Section 5 for the purposes of confirming that the Advanced Concept Plan is in accordance with the Hulbert group Concept Plan or alternatively that it should be approved in lieu of the Hulbert Group Concept Plan.

The existing approval (Condition 1) permits Council to approve a plan other than the Hulbert Group Concept Plan.

As far as the use of the land including the layout of the development is concerned, a number of matters need to be borne in mind:

- The approved Hulbert Group Concept Plan was approved in conjunction with the rezoning, subject to compliance with the rezoning conditions;
- The Hulbert Group Plan is a "Concept Plan", both on its face and in the conditions of rezoning approval (Condition 1);
- Condition 3 requires submission of a tree clearing plan for approval by the Shire Engineer;
- Condition 25 requires all tree clearing to be carried out with prior approval under the Council's relevant by-law;
- Condition 9 provides for "special species" of trees as determined by Council to remain on the property;
- Condition 5 requires the submission of "detailed concept plans" of all stages at a later part of the approval process;
- Condition 12 makes it clear that the yield of the product is a maximum only.

Considered together, the Hulbert Group Concept Plan and rezoning conditions clearly anticipate an evolving design, in accordance with the approved Hulbert Group Concept Plan, but advanced as necessary to meet the conditions.

The Advanced Concept Plan has been prepared by undertaking the various studies referred to in the approval conditions and therefore constitutes an evolution of the Hulbert Group Concept Plan. The Advanced Concept Plan further clarifies the extent of approved development by way of reference to design guidelines, height controls, slope and vegetation removal.

The proposed infrastructure requirements for the Gold Coast Golf Resort Currumbin have been examined by Weathered Howe. As outlined in that report, the design and location of dwellings and accessways has been determined with specific regard to the topography of the site. As a result existing riparian corridors have been retained and improved through measures such as appropriate stormwater design and engineering works.

As identified by Weathered Howe, augmentation and extensions to external infrastructure services will be required, including water and sewerage, telecommunication and electricity. These requirements were necessary under the approved Hulbert Group Concept Plan and remain relevant to the Advanced Concept

Plan. In fact, the conditions of the approval refer to infrastructure service requirements and the assessment of those requirements has contributed to the evolution of the Advanced Concept Plan.

The golf course will not adversely impact on flood conveyance, flood storage, or flood risk.

Various engineering works including road gradient and location and have been designed having regard to the site's topography and other environmental features.

Connell Wagner has assessed the external road impacts associated with the development depicted on the Advanced Concept Plan. Their findings indicate that even without the development, road upgrading is required to the surrounding network. The Advanced Concept Plan results in an improvement of the traffic situation compared to the approved Hulbert Group Concept Plan dated the 10th November 1989.

An examination of the findings presented in the balance of the application material demonstrates that the conditions of the rezoning approval envisaged the evolution of the Hulbert Group Concept Plan to the Advanced Concept Plan.

Therefore the proposal in the form of the Advanced Concept Plan constitutes the evolution of the approved Hulbert Group Concept Plan and as contemplated by the conditions of the rezoning approval.

It is concluded that the Advanced Concept Plan is in accordance with the approved Hulbert Group Concept Plan. To the extent they are different, the Advanced Concept Plan will result in a better environmental outcome. Notwithstanding, Condition 1 of the rezoning approval permits Council to approve an alternative plan. The Applicant has applied to Council to carry out development under the Superseded Planning Scheme under the Advanced Concept Plan which is in accordance with the approved Hulbert Group Concept Plan.

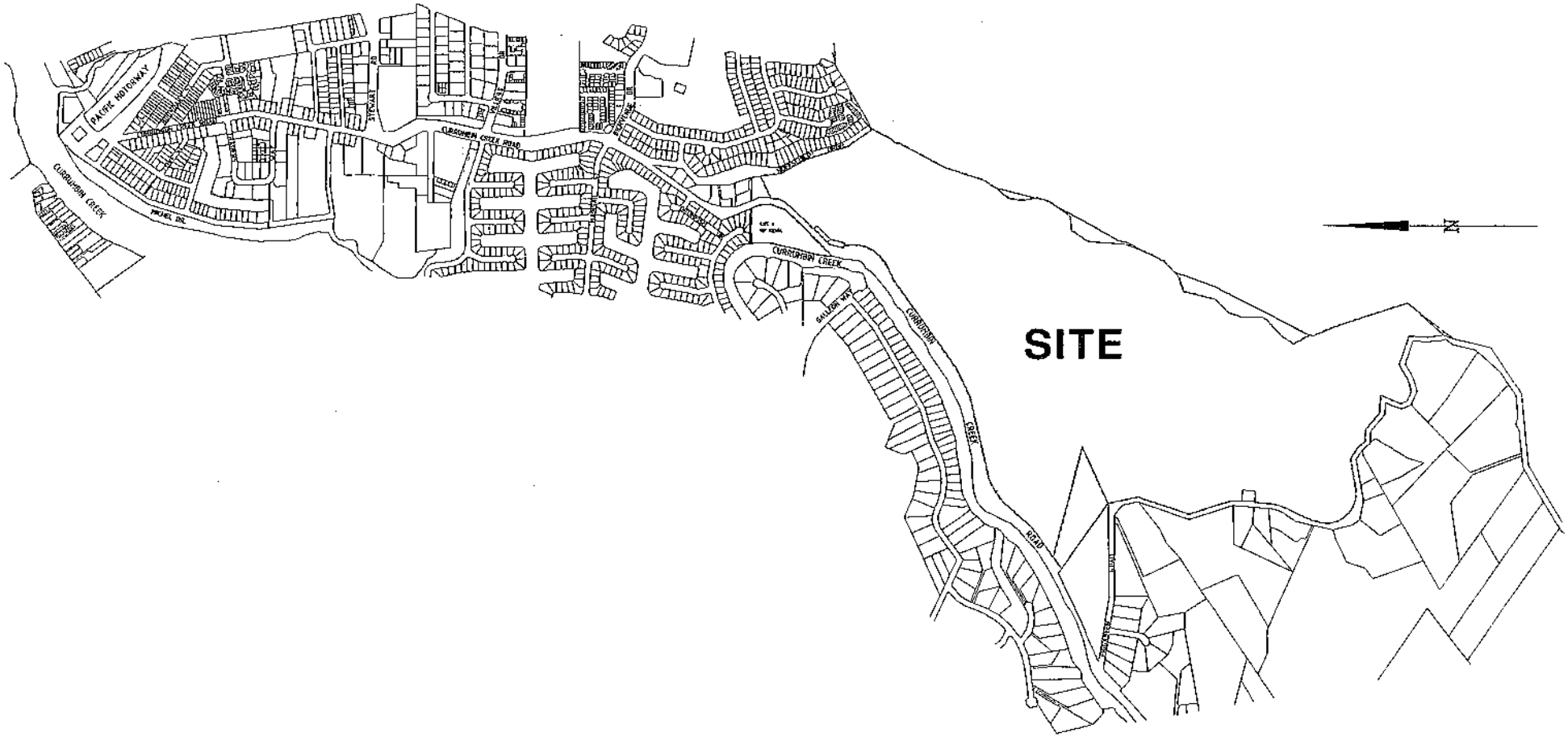
The Applicant has also applied under the Superseded Planning Scheme for Development Permit for Reconfiguration of a Lot, Preliminary Approval for Operational Works (tree clearing, road layout and gradient, and water and sewerage infrastructure), and Preliminary Approval for Building Works (Building Height), and those applications should be approved subject to reasonable and relevant conditions.

BRANNOCK & ASSOCIATES

JOHN BRANNOCK & KERRI HRUZA

Director *Associate*

FIGURES



REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	J.P.B.	20.04.06

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SURVEYOR: BENNETT & BENNETT

SCALE (AT ORIGINAL SHEET SIZE)

ORIGINAL SHEET SIZE: A3

CLIENT: DEVINE LIMITED

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

Weathered Howe *Engineers*

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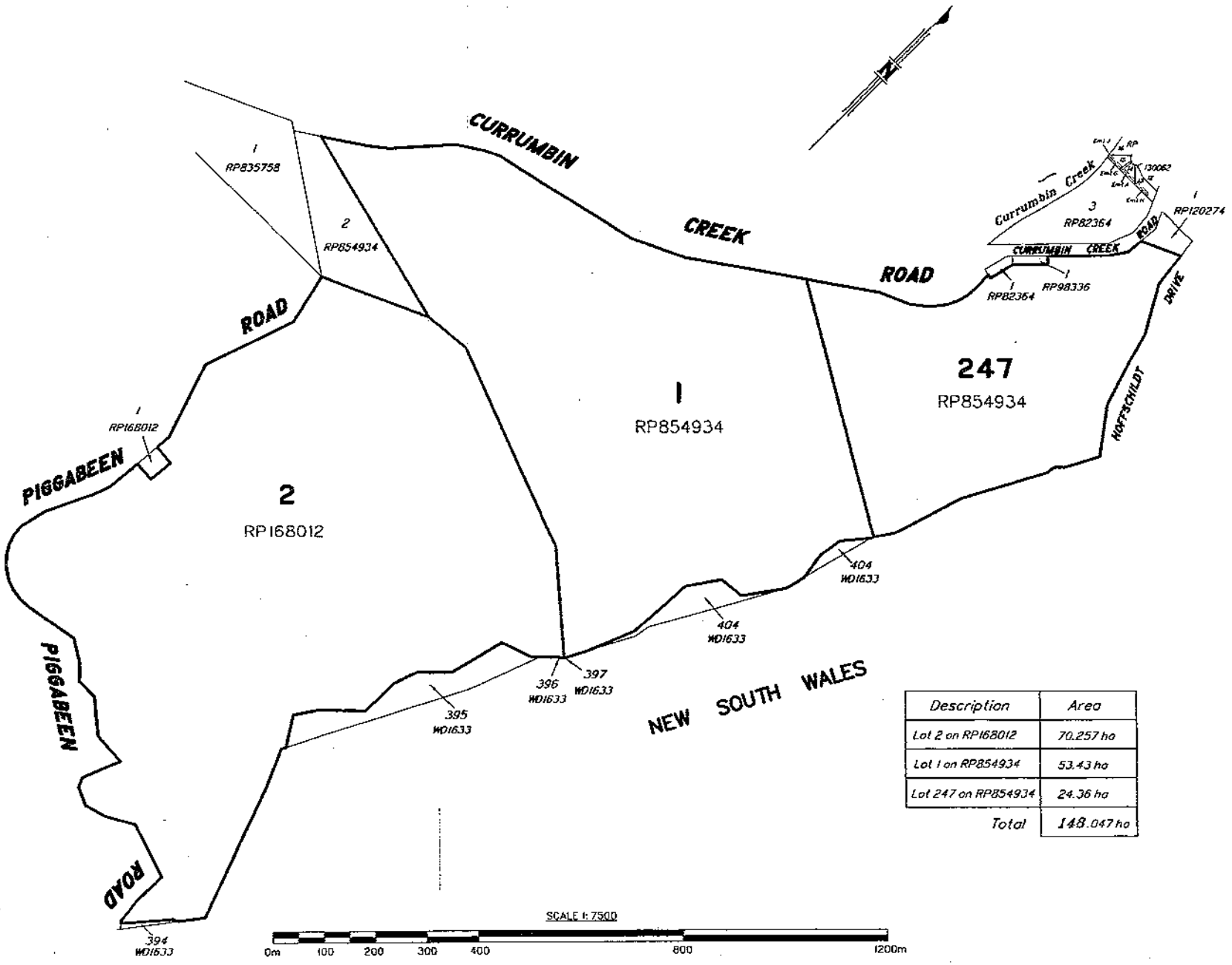
TITLE: LOCALITY PLAN

REVIEWED:

APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY LTD)

R.P.E.Q. No.

DESIGNED	S.B.W	DRAWING NUMBER	REVISION
DRAWN	J.P.B.	G03158E-A00	A
DATE	20TH APRIL		



Description	Area
Lot 2 on RP168012	70.257 ha
Lot 1 on RP854934	53.43 ha
Lot 247 on RP854934	24.36 ha
Total	148.047 ha

Bennett & Bennett
Consulting Surveyors, Development Consultants & Town Planners
BBH Pty. Ltd. A.C.N. 010 427 531
All mail to : PO Box 5021 G.C.M.C. Qld 9726
mail@bennettandbennett.com.au
95 Upton Street, Bundall
Ph (07) 5574 0733
Fax (07) 5574 0202
21 Dreamworld Parkway, Coomera
Ph (07) 5573 6177
Fax (07) 5529 4342

Rev.		Date
'A'	Amended Site	GS 19/03/04

NOTES:

TITLE

SITE PLAN

CLIENT	DEVINE HOMES
Drawn JSC	Parish TALLEBUDGERA
Surv'd	County WARD
Authorised	Job Ref. 03.306.A157
L/Book	Comp File 23303.*
Date 16/03/2004	Dwg File 23306MIS
SCALE 1: 7500	PLAN No. 3 Rev. 'A'

APPENDIX A

CONDITIONS OF APPROVAL ADDRESSED IN THIS REPORT

REZONING APPLICATION NO. 2135

CONDITIONS:

1. Development to be in accordance with Concept Plan 10.11.89 Hulbert Group unless otherwise approved by Council.

2. Dedication of a minimum of 6,000m^2 of parkland adjacent to Currumbin Creek Road to Council requirements.

3. Submission of a tree clearing plan for approval of the Shire Engineer, prior to any clearing of the site.

4. The company is to establish design controls on the ridge top housing with a view to minimising cut/fill and driveway earthworks to the satisfaction of the Shire Engineer. Housing in this area should be constructed predominantly of subdued colours.

5. Submission of detailed concepts plans of all stages of the development for Council approval prior to building approval or subdivision application.

6. No house lots are to have direct access to Piggabeen Road. Provision of a 3 link strip along the full length of Piggabeen Road adjacent to housing areas A.

7. The proposed hillside open space is to be set aside as a Park open to the public.

8. Provision of a public car parking area for eight (8) cars on Piggabeen Road to be located and constructed to Council standards at the applicant's cost.

9. All the existing hoop pine trees on Currumbin Creek Road and other special species on the property as determined by Council are to be retained and maintained in a healthy conditions.

10. The proposed shopping area H is to be located in the centre of the development and near the hotel as approved by Council.

11. All housing development is to be integrated with the ridge line to the requirements of the Shire Engineer.

12. This rezoning approval is only for the following zones:-

    Special Facilities-Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), Hotel (maximum 150 rooms).

13. Payment of headworks contributions assessed on detailed development plans, and at Council's rates current at date of payment, to be made prior to commencement of development (i.e. building, subdivision or land use).

14. Compliance with all of the requirements of the Town Plan, and all Council Bylaws regarding use of the land. A building approval is to be obtained prior to any building or structure being erected on the land.

15. Unless otherwise approved by the Shire Engineer, no filling to be placed on the land and no building development to be located below the flood level in accordance with Council Policy.

16. A report from a qualified engineer as to the extent and nature of fill proposed shall be submitted for the approval of Council, prior to filling operations commencing.

17. The eastern access to the Currumbin Creek Road is to be designed for a 60 km/hr through speed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include channelisation and overhead street lighting.

    Access is to be by way of the existing access to the property, upgraded in accordance with Council and Main Roads Department requirements at the applicant's cost. No trees are to be removed without the prior approval of Council.

    Dedication of the land required for the future southern carriageway of Currumbin Creek Road, at no cost to Council.

    The intersection at Tierney Drive is to be designed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include overhead lighting and channelisation.

18. Construction of a 1.8 metre concrete bikeway/footpath is to be constructed along Currumbin Creek Road from Tierney Drive to the eastern extent of the site.

19. Provision shall be made for all site drainage and stormwater runoff to be channelled to the road, or drainage outlet designated by Council.

20. The development is not to pollute Currumbin Creek.

21. The use shall be conducted in such a manner as not to interfere with the amenity of the neighbourhood by reason of noise, vibration, fumes, soot, waste products, lights or anything whatsoever.

22. Provision shall be made for the land to be maintained in a clean and tidy state at all times. Satisfactory arrangements shall be made for the collection, storage and disposal of all waste materials, with placement of industrial bins in accessible locations.

23. Connection of the land to Council's reticulated sewerage scheme at a point nominated by Council, at full cost to the applicant, and including upgrading of the existing system as necessary.

24. Connection of the land to Council's water supply system at full cost to the applicant, including upgrading of the existing system as necessary.

25. No tree clearing is to be carried out except with the prior approval pursuant to Bylaw 30.

26. Siteworks, construction works or the like shall be conducted only between the hours of 7 a.m. and 6 p.m., Monday to Friday, inclusive. No such works shall be carried out outside these hours or on Saturdays, Sundays or Public Holidays, unless specifically approved by Council.

27. All conditions of this approval are to be fully complied with a certificate of classification pursuant to the provisions of the Building Act is to be obtained before buildings are occupied.

28. These conditions shall continue to apply upon gazettal of the proposed rezoning.

29. Construction of two entrances to the property to the Main Roads Department and Council's standard including channelisation and lighting.

30. Construction of the intersection of Galleon Way and Currumbin Creek Road including channelisation and lighting to the Main Roads Department and Council's standards.

31. Full construction of the 6000m^2 of park on the north side of Currumbin Creek Road including levelling, grassing, landscaping, construction of B.B.Q. and, shelter structure, as approved by Council.

32. Submission of a landscaping plan for approval of the Shire Engineer, prior to the issue of any Building Application or subdivision approval.

33. Construction of the facilities shown on the plan and landscaping to be completed prior to the issue of survey plans or Certificate of Occupancy for any units.

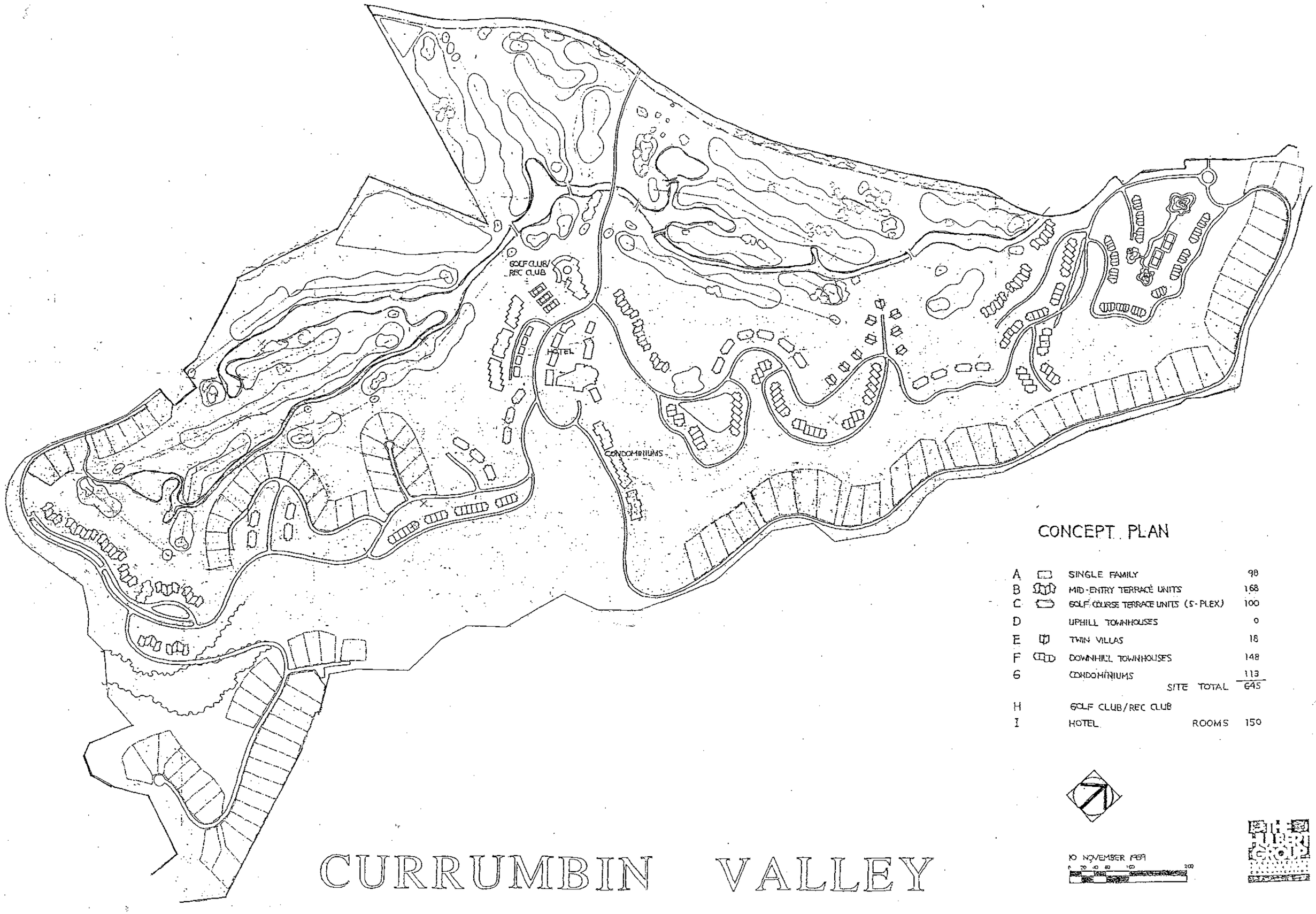
34. Provision of public toilets in the boat shed which is to be built adjacent to the park.

35. The maintenance of the balance of the land on the north side of Currumbin Creek to Council's satisfaction to enhance the appearance of the park.

36. Dedication of the land required for the future southern carriageway of Currumbin Creek Road (20m width) at no cost to Council.

37. Payment of $500 per unit for the 195 additional units approved by Council prior to building approval or the release of survey plans (i.e. $97,500 towards the upgrading of Currumbin Creek Road).

38. Payment of $500 per additional unit after the first 450 units to be paid at the time of lodgement of the building plans, for the upgrading of Currumbin Creek Road.



CURRUMBIN VALLEY

CONCEPT PLAN

A		SINGLE FAMILY	98
B		MID-ENTRY TERRACE UNITS	168
C		GOLF COURSE TERRACE UNITS (5-PLEX)	100
D		UPHILL TOWNHOUSES	0
E		TWIN VILLAS	18
F		DOWNHILL TOWNHOUSES	148
G		CONDOMINIUMS	113
		SITE TOTAL	645
H		GOLF CLUB/REC CLUB	
I		HOTEL ROOMS	150

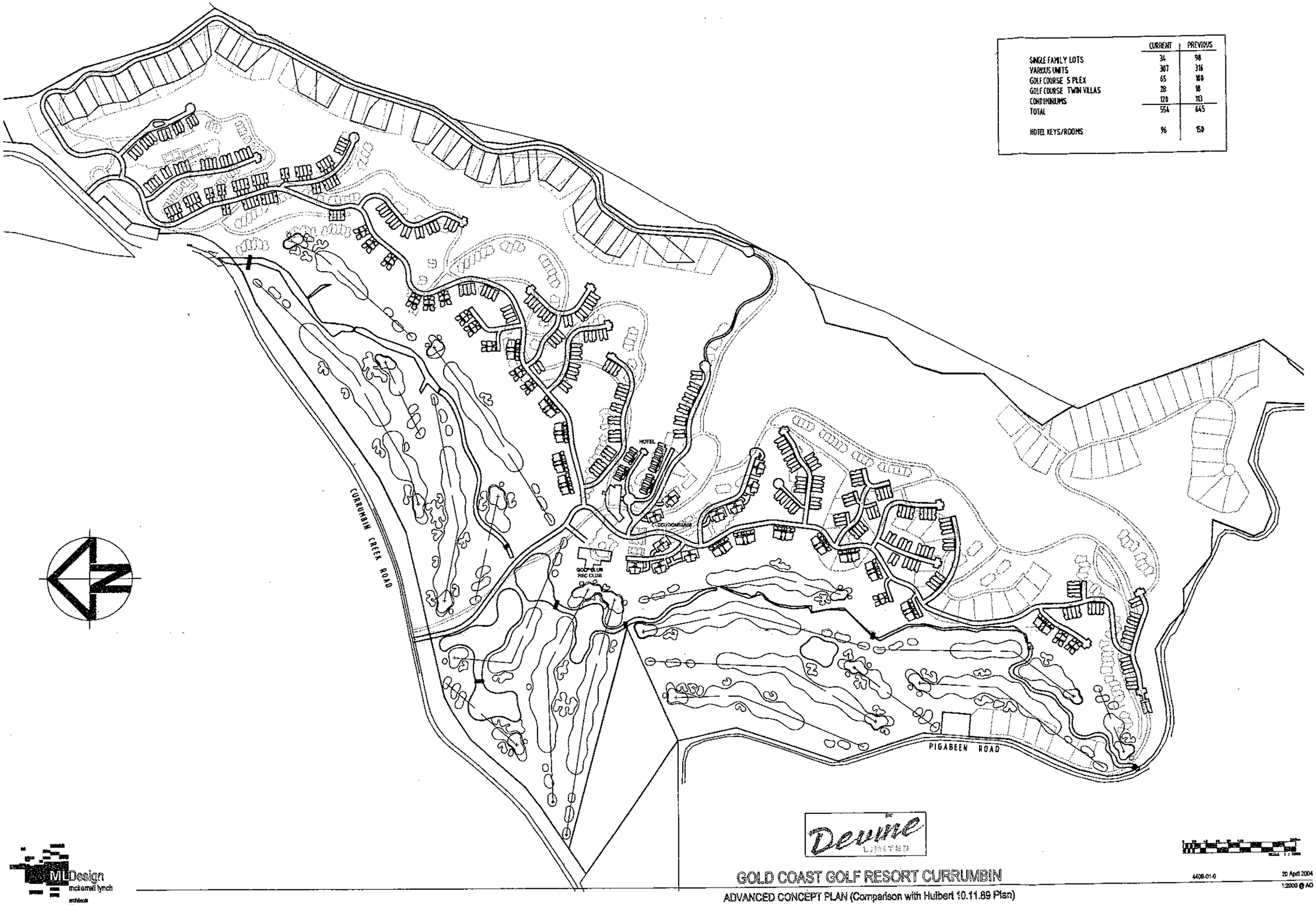
10 NOVEMBER 1989

0 50 100 150 200

APPENDIX B

ADVANCED CONCEPT PLAN (COMPARISON WITH HULBERT GROUP 10.11.89 PLAN)

	CURRENT	PREVIOUS
SINGLE FAMILY LOTS	34	98
VARIOUS UNITS	307	316
GOLF COURSE 5 PLEX	65	100
GOLF COURSE TWIN VILLAS	28	98
CONDOMINIUMS	120	133
TOTAL	554	645
HOTEL KEYS/ROOMS	96	150



MLDesign
mckenell lynch
architects
planners
interior designers

Deune
LIMITED

GOLD COAST GOLF RESORT CURRUMBIN

ADVANCED CONCEPT PLAN (Comparison with Hulbert 10.11.89 Plan)

4408-01-0

20 April 2004

1:2000 @ A0

APPENDIX C

IMPLEMENTATION STRATEGY FOR COMMUNITY TITLE AT GOLD COAST GOLF RESORT CURRUMBIN (STEWART SILVER KING AND BURNS)

STEWART SILVER
KING AND BURNS
STRATA CONSULTING

Level 2, The Precinct
12 Browning Street
PO Box 5955
West End Qld 4101
Telephone 07 3010 5555
Facsimile 07 3010 5500
Email sskb@sskb.net
Web www.sskb.com.au
abn 17 076 320 413

IMPLEMENTATION STRATEGY FOR COMMUNITY TITLE AT GOLD COAST GOLF RESORT CURRUMBIN

4 April 2004

1 Introduction

1.1 PURPOSE

This paper states how community title will be implemented at the Gold Coast Golf Resort Currumbin.

1.2 OVERVIEW

It is proposed that all of the land under consideration, aside from areas which may be accepted by Council as public park, should become part of a 3 layered arrangement of community title schemes, as stated in the structure provided for at 2.1.

2 Applying Community Title to the Gold Coast Golf Resort Currumbin

2.1 BODY CORPORATE STRUCTURE

The Body Corporate for Gold Coast Golf Resort Currumbin will be a 3 level, layered arrangement of community title schemes.

Level 1
The first level will be a principal scheme to be known as the Gold Coast Golf Resort Currumbin. It will be made up of –

- The golf course land (Lot 501)
- The hotel land (Lot 502)
- The land for the residential scheme (Lot 503)
- Common property.

The common property for the principal scheme will consist of –

- The entry statement for the principal scheme

- The road that runs through the golf course lot, which is used for entry to the golf course, the hotel lot and the residential scheme

- The utility service infrastructure, which is by definition the responsibility of the principal scheme.

Level 2

The hotel land may be subdivided into a further community title scheme that will be subsidiary to the principal scheme. This is the second level of community title schemes.

The land for the residential scheme will be further progressively subdivided to create a master body corporate for the residential lots. This is also the second layer of the body corporate layered arrangements. This master residential body corporate will be made up of –

- Lots for each precinct of residential development

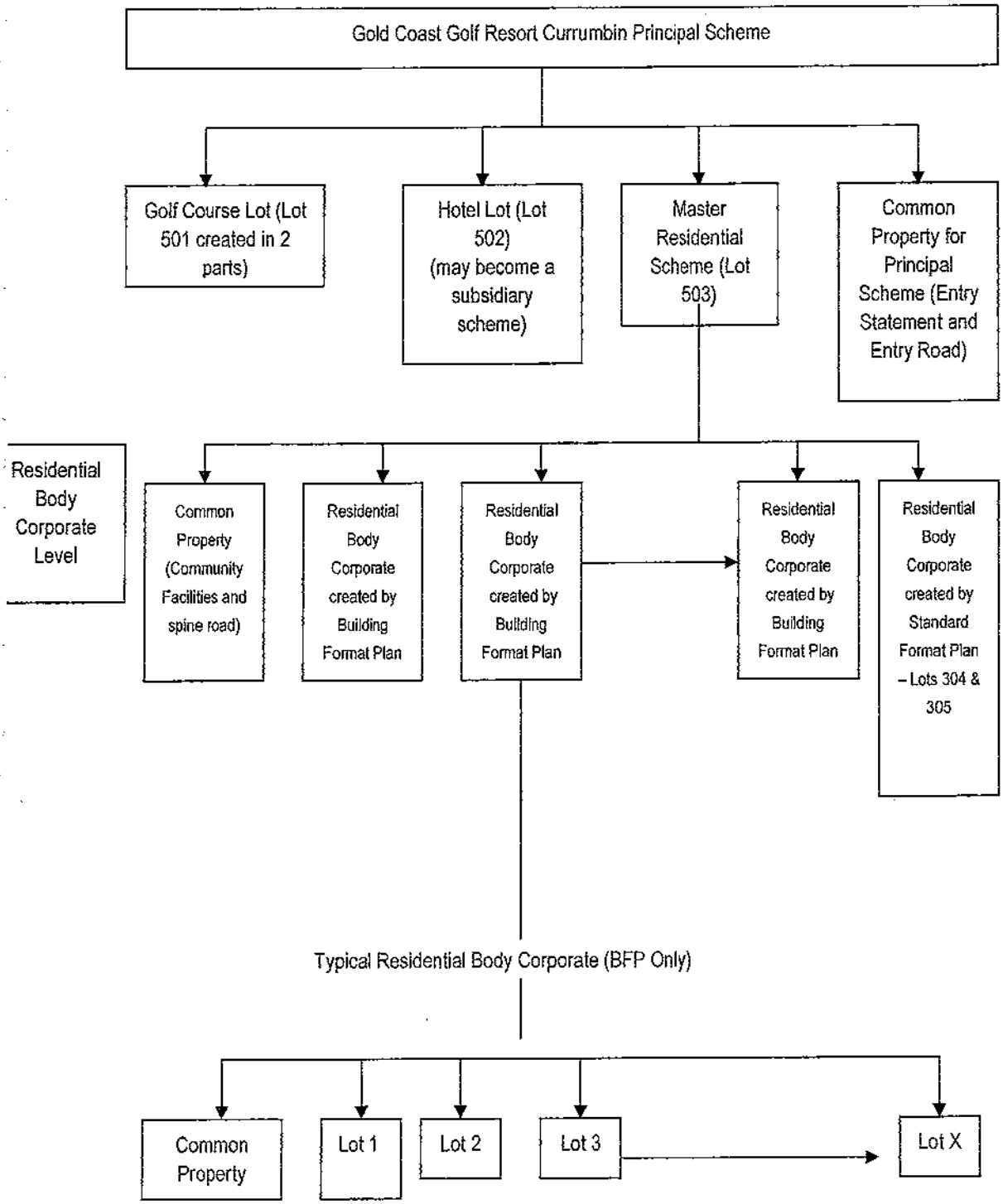
- Common property

The common property for the master residential body corporate will consist of the main spine road that runs through the scheme, and any community facilities like pools, recreation facilities, barbeques etc.

Level 3

Finally, the lots for residential development will be subdivided to create a third level of bodies corporate. Generally building format plans will be used to create this third level. However, a standard format plan will be used to create the residential lots on the east boundary to the site (Lots 304 and 305).

2.2 DIAGRAM OF BODY CORPORATE STRUCTURE



APPENDIX D

PLANNING & DEVELOPMENT CERTIFICATES ISSUED BY GOLD COAST CITY COUNCIL (OCTOBER 2003)

Date: 29 October 2003
Contact: Ms K Harrison
Location: Nerang
Telephone: (07) 5582 8117
Your Reference: 2509180.JOHN.HODGKINSON
Our Reference: PN135348/16/ & PN174588/16/--
[Search No 2331280]

Gold Coast City Council

DEACONS LAWYERS
GPO BOX 407
BRISBANE 4000
QUEENSLAND

STANDARD PLANNING AND DEVELOPMENT CERTIFICATE

UNDER SECTION 5.7.10 OF THE INTEGRATED PLANNING ACT

RATE ASSESSMENT NO: 23-04163-0000-9

PROPERTY NO: 135348

PREMISES DESCRIBED AS:

L2 RP168012 PARISH OF TALLEBUDGERA COUNTY OF WARD AND SITUATED AT 75 PIGGABEEN ROAD CURRUMBIN WATERS.

5.7.9 (a) DESCRIPTION OF ANY PLANNING SCHEME PROVISIONS APPLYING SPECIFICALLY TO THE PREMISES NOMINATED IN THE REAL PROPERTY DESCRIPTION.

The Domain Map and Local Area Plan Map indicates the preferred land uses for the various parts of the City. A description of the intended dominant form of development and the planning objectives for the subject land is given in Part 5 (Domains) and Part 6 (Local Area Plans) of the Planning Scheme.

DOMAIN/LOCAL AREA PLAN

The domain in which such land is situated:
Rural

The local area plan in which such land is situated:
Not Applicable

The local area plan precinct in which such land is situated:
Not Applicable

Maximum Residential Density (within LAP):
Not Applicable

Maximum Building Height (within LAP):
Not Applicable

ABN 84845848460
PO Box 5042 Gold Coast MC Qld 9729 Australia Email: gcccmail@goldcoast.qld.gov.au Web: www.goldcoast.qld.gov.au
Surfers Paradise Administration Centre 135 Bundall Rd Surfers Paradise Ph: (07) 5582 8211 Fax: (07) 5581 6346
Nerang Administration Centre Nerang Southport Rd Nerang Ph: (07) 5582 8211 Fax: (07) 5596 3653

OTHER OVERLAY MAP/PLANNING STRATEGY MAPS

Overlay Maps and/or Planning Scheme Provisions to which such land is subject:

Overlay Map 1 - Rural Subdivision:
1:4 HA Subdivision Ratio

Overlay Map 2 - Good Quality Agricultural Land:
Not Applicable

Overlay Map 3 - Cultural Heritage Site:
Not Applicable

Overlay Map 4 - Maximum Residential Density (outside LAPs):
Not Applicable

Overlay Map 5 - Minimum Lot Size:
Not Applicable

Overlay Map 6 - Maximum Building Height (outside LAPs):
2 Storey Maximum Height

Overlay Map 7 - Airport Environs:
Applicable

Overlay Map 8a - Airport OLS:
Not Applicable

Overlay Map 8b - Airport PAN OPS:
Not Applicable

Overlay Map 8c - Airport Noise Exposure:
Not Applicable

Overlay Map 8d - Airport Lighting Zone:
Outer

Overlay Map 8e - Public Safety Bird/Bat Zone:
Applicable

Overlay Map 9 - Airservices Australia:
Not Applicable

Overlay Map 10 - Potential Bush Fire Hazard:
Medium potential Bushfire Hazard, High Potential Bushfire Hazard, Low Potential Bushfire Hazard.

Overlay Map 11 - Wetland and Waterway:
Not Applicable

Overlay Map 12 - Foreshore Seawall:
Not Applicable

Overlay Map 13 - Canals and Waterways:

Applicable

Overlay Map 14 - Acid Sulfate Soils:
Applicable

Overlay Map 15 - Pacific Motorway Service Road Types:
Not Applicable

Overlay Map 16 - Unstable Soils:
Moderate

Overlay Map 17 - Potential Flood Inundation:
Refer to Council's Flood Strategies Department

Overlay Map 18 - Storm Water Drainage:
Not Applicable

Overlay Map 19 - Dam Catchment:
Not Applicable

Overlay Map 20 - Conservation Strategy:
Bushland Mosaics

Overlay Map 21 - Public Open Space:
Not Applicable

Overlay Map 22 - Tourist Routes:
Applicable

Overlay Map 23 - Extractive Resources:
Not Applicable

Overlay Map 24 - Vegetarian Protection Order:
Not Applicable

Transmission Lines:
33 KV Network Not Applicable

Road Realignment:
Not Applicable

Council Communications Network (Microwave):
Not Applicable

(b) DESCRIPTION OF ANY DESIGNATIONS APPLYING TO THE PREMISES.
Nil

(c) STATEMENT OF THE AMOUNT OF ANY INFRASTRUCTURE CHARGE FOR THE PREMISES THAT HAS NOT BEEN PAID
Nil

5.7.10(1) *Note: FOR SUBSECTION (1) A DEVELOPMENT APPROVAL OR A DECISION NOTICE OR NEGOTIATED DECISION NOTICE FOR A DEVELOPMENT APPROVAL INCLUDES ALL CONTINUING APPROVALS MENTIONED IN SECTION 6.1.23(1)(a) TO (d) BUT NOT A CONTINUING APPROVAL MENTIONED IN SECTION 6.1.23(1)(e): section 5.7.10(2)*

(a) A COPY OF EVERY DECISION NOTICE OR NEGOTIATED DECISION NOTICE FOR A DEVELOPMENT APPROVAL THAT HAS NOT LAPSED.

FILE NO	DEVELOPMENT APPROVAL	DATE
560/20/2135	Rezoning Application Order in Council	18/01/90 12/03/92

(b) DETAILS OF ANY MINOR CHANGES TO THE DEVELOPMENT APPROVAL

Nil

(c) A COPY OF ANY JUDGEMENT OR ORDER OF THE COURT ABOUT THE DEVELOPMENT APPROVAL

Nil

(d) A COPY OF ANY AGREEMENT TO WHICH THE LOCAL GOVERNMENT OR A CONCURRENCE AGENCY IS A PARTY ABOUT A CONDITION OF THE DEVELOPMENT APPROVAL.

Nil

(e) A COPY OF ANY INFRASTRUCTURE AGREEMENT APPLYING TO THE PREMISES TO WHICH THE LOCAL GOVERNMENT IS A PARTY.

Nil

(f) A DESCRIPTION OF EACH PROPOSED AMENDMENT OF A PLANNING SCHEME THE LOCAL GOVERNMENT HAS DECIDED TO PROCEED WITH UNDER SCHEDULE 1, SECTION 16, BUT HAS NOT BEEN ADOPTED.

Nil

NOTES

(A) The use of the subject land for the purpose specified in an approval is subject to compliance with all conditions of that approval.

(B) Some records have either been lost, accidentally destroyed or have deteriorated during several transitions and certain information is therefore unable to be produced.

(C) This certificate reflects planning instruments in force at the time of preparation of this certificate. Council may introduce new, or amend existing, planning instruments (including planning schemes and planning scheme policies) from time to time. Nothing in this certificate fetters Council's ability to give effect to current or amended planning instruments or the exercise by Council of its powers generally.

(D) Persons should refer directly to applicable laws, planning instruments and development approvals to fully ascertain all limitations, qualifications and requirements applicable to development on or use of the premises.

Should you wish to clarify any issues contained in the above letter please do not hesitate to contact K Harrison on telephone (07) 5582 8117.

Yours faithfully

for Ian Glew
MANAGER STATUTORY PLANNING

L190/RM/mjh
560/20/2135
T/Planning Dept:FR
Minute No. P89 12 103

18th January, 1990

The Project Manager
Gordon Pacific
P O Box 322
SOUTHPORT QLD 4215

Dear Sir,

RE: REZONING APPLICATION NO. 2135 - ARMBAY PTY. LTD.
PROPOSED SPECIAL FACILITIES - GOLF COURSE & ASSOCIATED RECREATION FACILITIES, ACCOMMODATION UNITS & DWELLING HOUSES, HOTEL - MAX. 150 ROOMS, CURRUMBIN CREEK ROAD, PIGGABEEN ROAD AND HOFFSCHILDT ROAD, CURRUMBIN

With reference to the above application, I am directed to advise that Council intends to recommend to the Minister for Local Government, approval of the rezoning as described on the attached sheet.

Council's intention is subject to the attached conditions and shall be confirmed if no Appeal is lodged by the applicant or objectors within the prescribed period of 30 days.

Yours faithfully,

for: T.R. Moore
SHIRE CLERK

Encl.

REZONING

FILE NO. 2130

CONDITIONS:-

1. Development to be in accordance with concept plan 10.11.89 Hulbert Group unless otherwise approved by Council.

2. Dedication of a minimum of 6,000m^2 of parkland adjacent to Currubmin Creek Road to Council requirements.

3. Provision of roadworks along Currumbin Creek Road as follows:-

   Construction of an additional carriageway from the site to Villiers Drive. Submission of detailed engineering designs for approval of the Shire Engineer, prior to any development proceeding on the site.

4. Submission of a tree clearing plan for approval of the Shire Engineer, prior to any clearing of the site.

5. The company is to establish design controls on the ridge top housing with a view to minimising cut/fill and driveway earthworks to the satisfaction of the Shire Engineer. Housing in this area should be constructed predominantly of subdued colours.

6. Submission of detailed concept plans of all stages of the development for Council approval prior to building approval or subdivision application.

7. No house lots are to have direct access to Piggabeen Road. Provision of a 3 1k strip along the full length of Piggabeen Road adjacent to housing areas A.

8. The proposed hillside open space is to be set aside as a Park open to the public.

9. Provision of a public car parking area for eight (8) cars on Piggabeen Road to be located and constructed to Council standards at the applicant's cost.

10. All the existing hoop pine trees on Currumbin Creek Road and other special species on the property as determined by Council are to be retained and maintained in a healthy condition.

11. The proposed shopping area H is to be located in the centre of the development and near the hotel as approved by Council.

Cont...

CONDITIONS:-

12. All housing development is to be integrated with the ridgeline to the requirements of the Shire Engineer.

13. This rezoning approval is only for the following zones:-

Special Facilities - Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), hotel (maximum 150 rooms).

14. Payment of headworks contributions assessed on detailed development plans, and at Council's rates current at date of payment, to be made prior to commencement of development (i.e. building, subdivision or land use).

15. Compliance with all of the requirements of the Town Plan, and all Council bylaws regarding use of the land. A building approval is to be obtained prior to any building or structure being erected on the land.

16. Unless otherwise approved by the Shire Engineer, no filling to be placed on the land and no building development to be located below the flood level in accordance with Council Policy.

17. A report from a qualified engineer as to the extent and nature of fill proposed shall be submitted for the approval of Council, prior to filling operations commencing.

18. The eastern access to the Currumbin Creek Road is to be designed for a 60 km/hr through speed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include channelisation and overhead street lighting.

Access is to be by way of the existing access to the property, upgraded in accordance with Council and Main Roads Department requirements at the applicant's cost. No trees are to be removed without the prior approval of Council.

Dedication of the land required for the future southern carriageway of Currumbin Creek Road, at no cost to Council.

The intersection at Tierney Drive is to be designed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include overhead lighting and channelisation.

Cont...

REZONING

FILE NO. 21...

CONDITIONS:-

19. Construction of a 1.8 metre concrete bikeway/footpath is to be constructed along Currumbin Creek Road from Tierney Drive to the eastern extent of the site.

20. Provision shall be made for all site drainage and stormwater runoff to be channelled to the road, or drainage outlet designated by Council.

21. The development is not to pollute Currumbin Creek.

22. The use shall be conducted in such a manner as not to interfere with the amenity of the neighbourhood by reason of noise, vibration, fumes, soot, waste products, lights or anything whatsoever.

23. Provision shall be made for the land to be maintained in a clean and tidy state at all times. Satisfactory arrangements shall be made for the collection, storage and disposal of all waste materials, with placement of industrial bins in accessible locations.

24. Connection of the land to Council's reticulated sewerage scheme at a point nominated by Council, at full cost to the applicant, and including upgrading of the existing system as necessary.

25. Connection of the land to Council's water supply system at full cost to the applicant, including upgrading of the existing system as necessary.

26. No tree clearing is to be carried out except with the prior approval pursuant to Bylaw 30.

27. Siteworks, construction works or the like shall be conducted only between the hours of 7 a.m. and 6 p.m. Monday to Friday inclusive. No such works shall be carried out outside these hours or on Saturdays, Sundays or public holidays, unless specifically approved by Council.

28. All conditions of this approval are to be fully complied with and a certificate of classification pursuant to the provisions of the Building Act is to be obtained before buildings are occupied.

29. These conditions shall continue to apply upon gazettal of the proposed rezoning.

COB(5)560/20-2135(P5)
Mr J O'Connor

20 March, 1992

Mr N Suzuki Pty Ltd
Co-You Australia Pty Ltd
PO Box 7535
GOLD COAST MAIL CENTRE 4217

Dear Sir

REZONING APPLICATION NO. 2135 - ARMBRAY PTY LTD
PROPOSED SPECIAL FACILITIES - GOLF COURSE AND ASSOCIATED RECREATIONAL FACILITIES, ACCOMMODATION UNITS & DWELLING HOUSES (MAX.645), HOTEL (150 ROOMS MAX.), LOT 2 RP168012, LOT 247 PLAN WD4751 (FORMERLY PORTION 247) & LOT 1 PLAN WD4863 (FORMERLY RESUB 2 SUB 5 PORTION 24), PARISH OF TALLEBUDGERA, CURRUMBIN CREEK ROAD, CURRUMBIN
PROPOSED TOWN PLANNING SCHEME AMENDMENT

With reference to the above application, I am directed to advise that His Excellency the Governor in Council, gave approval to this application on 12 March, 1992.

Yours faithfully

for T R Moore
SHIRE CLERK

Encl

Queensland Department of Housing and Local Government

ALBERT SHIRE COUNCIL
RECEIVED
16 MAR 1992
ATT No. (7) RRA/6816
REFER TO TP
FILE No. ( ) 560/20-2135 (P5)

COPY TO DTP1 & SUBE
560/20-2

The Shire Clerk
Albert Shire Council
PO Box 172
NERANG QLD 4211

Your Reference: RA:(9)560/20-2135(P5); FR(1)560/20-2366; FR(7)560/20-2367; FR(5)560/20-2392; FR(5)560/20-2383
Our Reference: TPA/6505, 5441, 6536, 6649, 6650 CM:KR
Enquiries: Minutes & Publications
Extension: (07) 237 1858

12th March, 1992

Dear Sir,

With reference to previous correspondence, I am directed to inform you that His Excellency the Governor in Council today gave approval to an Order in Council amending the town planning scheme for the Shire of Albert by the rezoning of certain lands situated at Corner Loane Drive and Grove Road, Edens Landing; Currumbin Creek Road, Piggabeen Road and Hoffschildt Drive, Currumbin; Logan River Road, Edens Landing; 7004 Pacific Highway and Penny Lane, Andrews and 24 Railway Street, Mudgeeraba.

A copy of such Order in Council, which will be published in the Government Gazette on the 13th March, 1992 is enclosed for your information.

The scheme maps referred to in the Order in Council, which scheme maps have been signed for identification by the Clerk of the Executive Council, are being forwarded under separate cover.

Yours faithfully,

M V C Jackson
Director of Local Government.
GTN

Address Correspondence to:
The Director-General PO Box 31 North Quay Brisbane 4002
Telephone: (07) 237 [illegible]

ORDER IN COUNCIL

At the Executive Building, Brisbane, the twelfth day of March, 1992

Present:

His Excellency the Governor in Council

HIS Excellency the Governor, acting by and with the advice of the Executive Council and under the *Local Government (Planning and Environment) Act 1990* and the *Local Government Act 1936*, in relation to applications to amend the town planning schemes referred to in the Schedule made by the relevant Local Authorities under the *Local Government Act 1936* (being matters that, under section 8.10 of the *Local Government (Planning and Environment) Act 1990* are to be dealt with as if that last-mentioned Act had not commenced), hereby notifies the approval of the amendments of the town planning schemes set out in the Schedule.

And the Honourable the Deputy Premier, Minister for Housing and Local Government is to give the necessary directions herein accordingly.

E. J. BIGBY, Clerk of the Council

The Schedule

Town Planning Scheme	Date of Notification of Approval of Town Planning Scheme	Description of Land Rezoned	Zone from which said Land Excluded and Zoning Maps Affected	Zone in which said Land Included and Zoning Maps Affected
The Shire of Albert	19th March, 1988	Part of Lot 1 on R.P. 150831, parish of Boyd	Future Urban Zone as shown on Sheets 6 and 10	Residential A Zone as shown on Sheets 6/8 and 10/9
		Lot 2 on R.P. 168012, Lot 247 on Plan WD 4751 and Lot 1 on Plan WD 4863, parish of Tallebudgera, county of Ward	Special Facilities Zone as shown on Sheets 52/11 and 80/2	Special Facilities Zone as shown on Sheets 52/16 and 80/3
		Part of Lots 3 and 4 on R.P. 105833, parish of Boyd	Partly Future Urban Zone and partly Residential A Zone as shown on Sheet 10	Rural A Zone as shown on Sheet 10/10
		Lot 4 on R.P. 201084, parish of Mudgeeraba	Medium Industry Zone as shown on Sheet 45	Special Facilities Zone as shown on Sheet 45/12
		Lot 1 on Plan WD 4372, parish of Gilston, county of Ward	Special Business Zone as shown on Sheet 40	Special Facilities Zone as shown on Sheet 40/18
The Shire of Caboolture	12th March, 1988	Part of Lot 159 on Plan CG 1964, parish of Toorbul, county of Canning	Rural Zone as shown on Sheet 20	Rural Residential C Zone as shown on Sheet 20/6
		Lots 11 and 12 on R.P. 191226, parish of Canning	Rural Residential A Zone as shown on Sheet 10	Partly Rural Residential C Zone and partly Rural Residential B Zone as shown on Sheet 10/17
The Shire of Crow's Nest	8th December, 1984	Lot 3 on R.P. 175052, parish of Meringandan	Rural "A" Zone as shown on Sheet 4	Residential "C" Zone as shown on Sheet 4/2
The City of Gold Coast	27th March, 1982	Lot 10 on R.P. 87879, parish of Nerang	Residential "B" Zone as shown on Sheet 12	Special Facilities Zone as shown on Sheet 12/50
The Whole of the Shire of Maroochy	14th December, 1985	Lot 6 on R.P. 225552, parish of Mooloolah	Rural B Zone as shown on Sheet 55	Rural Residential Zone as shown on Sheet 55/10
The Shire of Pioneer	26th November, 1983	Part of Lot 1 on R.P. 745269, parish of Bassett	Rural "A" Zone as shown on Sheet 68	Residential "A" Zone as shown on Sheet 65/5
The City of Redcliffe	19th April, 1986	Lot 4 on R.P. 92273, parish of Redcliffe	Residential "C" Zone as shown on Sheet 11	Special Facilities Zone as shown on Sheet 11/14
The City of Thuringowa	22nd October, 1988	Part of Lot 1 on R.P. 748026, parish of Bohle	Rural B Zone as shown on Sheet 24	Rural/Residential 1 Zone as shown on Sheet 24/15

Date: 29 October 2003
Contact: Ms K Harrison
Location: Nerang
Telephone: (07) 5582 8117
Your Reference: 2509180.JOHN.HODGKINSON
Our Reference: PN174588/16/-
[Search No 2331282]

Gold Coast City Council

DEACONS LAWYERS
GPO BOX 407
BRISBANE 4000
QUEENSLAND

STANDARD PLANNING AND DEVELOPMENT CERTIFICATE

UNDER SECTION 5.7.10 OF THE INTEGRATED PLANNING ACT

RATE ASSESSMENT NO: 23-04163-0000-9

PROPERTY NO: 174588

PREMISES DESCRIBED AS:

L1 RP854934 PARISH OF TALLEBUDGERA COUNTY OF WARD AND SITUATED AT 315 CURRUMBIN CREEK ROAD CURRUMBIN WATERS

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Maximum Building Height (within LAP):
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ABN 84858548460
PO Box 5042 Gold Coast MC Qld 9729 Australia Email: gcccmail@goldcoast.qld.gov.au Web: www.goldcoast.qld.gov.au
Surfers Paradise Administration Centre 135 Bundall Rd Surfers Paradise Ph: (07) 5582 8211 Fax: (07) 5581 6346
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Overlay Maps and/or Planning Scheme Provisions to which such land is subject:

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1:4 HA Subdivision Ratio

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2 Storey Maximum

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Overlay Map 8c - Airport Noise Exposure:
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Overlay Map 8d - Airport Lighting Zone:
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Council Communications Network (Microwave):
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FILE NO	DEVELOPMENT APPROVAL	DATE
60/20/2135	Rezoning Application Order In Council	18/01/90 12/03/92

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Nil

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Nil

(d) A COPY OF ANY AGREEMENT TO WHICH THE LOCAL GOVERNMENT OR A CONCURRENCE AGENCY IS A PARTY ABOUT A CONDITION OF THE DEVELOPMENT APPROVAL.

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Nil

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Nil

NOTES

(A) The use of the subject land for the purpose specified in an approval is subject to compliance with all conditions of that approval.

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Yours faithfully



for Ian Glew
MANAGER STATUTORY PLANNING

L190/RM/mjh
560/20/2135
T/Planning Dept:FR
Minute No. P89 12 103

18th January, 1990

The Project Manager
Gordon Pacific
P O Box 322
SOUTHPORT QLD 4215

Dear Sir,

RE: REZONING APPLICATION NO. 2135 - ARMBAY PTY. LTD.
PROPOSED SPECIAL FACILITIES - GOLF COURSE & ASSOCIATED RECREATION FACILITIES, ACCOMMODATION UNITS & DWELLING HOUSES, HOTEL - MAX. 150 ROOMS, CURRUMBIN CREEK ROAD, PIGGABEEN ROAD AND HOFFSCHILDT ROAD, CURRUMBIN

With reference to the above application, I am directed to advise that Council intends to recommend to the Minister for Local Government, approval of the rezoning as described on the attached sheet.

Council's intention is subject to the attached conditions and shall be confirmed if no Appeal is lodged by the applicant or objectors within the prescribed period of 30 days.

Yours faithfully,

for: T.R. Moore
SHIRE CLERK

Encl.

REZONING

FILE NO. 2155

CONDITIONS:-

1. Development to be in accordance with concept plan 10.11.89 Hulbert Group unless otherwise approved by Council.

2. Dedication of a minimum of 6,000m^2 of parkland adjacent to Currubmin Creek Road to Council requirements.

3. Provision of roadworks along Currumbin Creek Road as follows:-

   Construction of an additional carriageway from the site to Villiers Drive. Submission of detailed engineering designs for approval of the Shire Engineer, prior to any development proceeding on the site.

4. Submission of a tree clearing plan for approval of the Shire Engineer, prior to any clearing of the site.

5. The company is to establish design controls on the ridge top housing with a view to minimising cut/fill and driveway earthworks to the satisfaction of the Shire Engineer. Housing in this area should be constructed predominantly of subdued colours.

6. Submission of detailed concept plans of all stages of the development for Council approval prior to building approval or subdivision application.

7. No house lots are to have direct access to Piggabeen Road. Provision of a 3 1k strip along the full length of Piggabeen Road adjacent to housing areas A.

8. The proposed hillside open space is to be set aside as a Park open to the public.

9. Provision of a public car parking area for eight (8) cars on Piggabeen Road to be located and constructed to Council standards at the applicant's cost.

10. All the existing hoop pine trees on Currumbin Creek Road and other special species on the property as determined by Council are to be retained and maintained in a healthy condition.

11. The proposed shopping area H is to be located in the centre of the development and near the hotel as approved by Council.

Cont...

CONDITIONS:-

12. All housing development is to be integrated with the ridgeline to the requirements of the Shire Engineer.

13. This rezoning approval is only for the following zones:-

Special Facilities - Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), hotel (maximum 150 rooms).

14. Payment of headworks contributions assessed on detailed development plans, and at Council's rates current at date of payment, to be made prior to commencement of development (i.e. building, subdivision or land use).

15. Compliance with all of the requirements of the Town Plan, and all Council bylaws regarding use of the land. A building approval is to be obtained prior to any building or structure being erected on the land.

16. Unless otherwise approved by the Shire Engineer, no filling to be placed on the land and no building development to be located below the flood level in accordance with Council Policy.

17. A report from a qualified engineer as to the extent and nature of fill proposed shall be submitted for the approval of Council, prior to filling operations commencing.

18. The eastern access to the Currumbin Creek Road is to be designed for a 60 km/hr through speed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include channelisation and overhead street lighting.

Access is to be by way of the existing access to the property, upgraded in accordance with Council and Main Roads Department requirements at the applicant's cost. No trees are to be removed without the prior approval of Council.

Dedication of the land required for the future southern carriageway of Currumbin Creek Road, at no cost to Council.

The intersection at Tierney Drive is to be designed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include overhead lighting and channelisation.

Cont...

CONDITIONS:-

19. Construction of a 1.8 metre concrete bikeway/footpath is to be constructed along Currumbin Creek Road from Tierney Drive to the eastern extent of the site.

20. Provision shall be made for all site drainage and stormwater runoff to be channelled to the road, or drainage outlet designated by Council.

21. The development is not to pollute Currumbin Creek.

22. The use shall be conducted in such a manner as not to interfere with the amenity of the neighbourhood by reason of noise, vibration, fumes, soot, waste products, lights or anything whatsoever.

23. Provision shall be made for the land to be maintained in a clean and tidy state at all times. Satisfactory arrangements shall be made for the collection, storage and disposal of all waste materials, with placement of industrial bins in accessible locations.

24. Connection of the land to Council's reticulated sewerage scheme at a point nominated by Council, at full cost to the applicant, and including upgrading of the existing system as necessary.

25. Connection of the land to Council's water supply system at full cost to the applicant, including upgrading of the existing system as necessary.

26. No tree clearing is to be carried out except with the prior approval pursuant to Bylaw 30.

27. Siteworks, construction works or the like shall be conducted only between the hours of 7 a.m. and 6 p.m. Monday to Friday inclusive. No such works shall be carried out outside these hours or on Saturdays, Sundays or public holidays, unless specifically approved by Council.

28. All conditions of this approval are to be fully complied with and a certificate of classification pursuant to the provisions of the Building Act is to be obtained before buildings are occupied.

29. These conditions shall continue to apply upon gazettal of the proposed rezoning.

COB(5)560/20-2135(P5)
Mr J O'Connor

20 March, 1992

Mr N Suzuki Pty Ltd
Co-You Australia Pty Ltd
PO Box 7535
GOLD COAST MAIL CENTRE 4217

Dear Sir

REZONING APPLICATION NO. 2135 - ARMBRAY PTY LTD
PROPOSED SPECIAL FACILITIES - GOLF COURSE AND ASSOCIATED RECRETIONAL FACILITIES, ACCOMMODATION UNITS & DWELLING HOUSES (MAX.645), HOTEL (150 ROOMS MAX.), LOT 2 RP168012, LOT 247 PLAN WD4751 (FORMERLY PORTION 247) & LOT 1 PLAN WD4863 (FORMERLY RESUB 2 SUB 5 PORTION 24), PARISH OF TALLEBUDGERA, CURRUMBIN CREEK ROAD, CURRUMBIN
PROPOSED TOWN PLANNING SCHEME AMENDMENT

With reference to the above application, I am directed to advise that His Excellency the Governor in Council, gave approval to this application on 12 March, 1992.

Yours faithfully

for T R Moore
SHIRE CLERK

Encl

Queensland Department of Housing and Local Government

ALBERT SHIRE COUNCIL
RECEIVED
16 MAR 1992
ATT No. (7) TPA/6516
REFER TO TP
FILE No. ( ) 560/20-2135 (P5)

COPY TO DTP1 & SOR 560/20-

The Shire Clerk
Albert Shire Council
PO Box 172
NERANG QLD 4211

Your Reference: RA:(9)560/20-2135(P5); FR(1)560/20-2366; FR(7)560/20-2367; FR(5)560/20-2392; FR(5)560/20-2383
Our Reference: TPA/6505, 6441, 6536, 6649, 6650 CM:KR
Enquiries: Minutes & Publications
Extension: (07) 237 1858

12th March, 1992

Dear Sir,

With reference to previous correspondence, I am directed to inform you that His Excellency the Governor in Council today gave approval to an Order in Council amending the town planning scheme for the Shire of Albert by the rezoning of certain lands situated at Corner Loane Drive and Grove Road, Edens Landing; Currumbin Creek Road, Piggabeen Road and Hoffschildt Drive, Currumbin; Logan River Road, Edens Landing; 7004 Pacific Highway and Penny Lane, Andrews and 24 Railway Street, Mudgeeraba.

A copy of such Order in Council, which will be published in the Government Gazette on the 13th March, 1992 is enclosed for your information.

The scheme maps referred to in the Order in Council, which scheme maps have been signed for identification by the Clerk of the Executive Council, are being forwarded under separate cover.

Yours faithfully,

M.V. Tucker
Director of Local Government.
GMV

Address Correspondence to:
The Director-General PO Box 31 North Quay Brisbane 4002
Telephone: (07) 237 1328

ORDER IN COUNCIL

At the Executive Building, Brisbane, the twelfth day of March, 1992

Present:

His Excellency the Governor in Council

HIS Excellency the Governor, acting by and with the advice of the Executive Council and under the *Local Government (Planning and Environment) Act 1990* and the *Local Government Act 1936*, in relation to applications to amend the town planning schemes referred to in the Schedule made by the relevant Local Authorities under the *Local Government Act 1936* (being matters that, under section 8.10 of the *Local Government (Planning and Environment) Act 1990* are to be dealt with as if that last-mentioned Act had not commenced), hereby notifies the approval of the amendments of the town planning schemes set out in the Schedule.

And the Honourable the Deputy Premier, Minister for Housing and Local Government is to give the necessary directions herein accordingly.

E. J. BIGBY, Clerk of the Council

The Schedule

Town Planning Scheme	Date of Notification of Approval of Town Planning Scheme	Description of Land Rezoned	Zone from which said Land Excluded and Zoning Maps Affected	Zone in which said Land Included and Zoning Maps Affected
The Shire of Albert	19th March, 1988	Part of Lot 1 on R.P. 150831, parish of Boyd	Future Urban Zone as shown on Sheets 6 and 10	Residential A Zone as shown on Sheets 6/8 and 10/9
		Lot 2 on R.P. 168012, Lot 247 on Plan WD 4751 and Lot 1 on Plan WD 4863, parish of Tallebudgera, county of Ward	Special Facilities Zone as shown on Sheets 52/11 and 80/2	Special Facilities Zone as shown on Sheets 52/16 and 80/3
		Part of Lots 3 and 4 on R.P. 105833, parish of Boyd	Partly Future Urban Zone and partly Residential A Zone as shown on Sheet 10	Rural A Zone as shown on Sheet 10/10
		Lot 4 on R.P. 201084, parish of Mudgeeraba	Medium Industry Zone as shown on Sheet 45	Special Facilities Zone as shown on Sheet 45/12
		Lot 1 on Plan WD 4572, parish of Gilston, county of Ward	Special Business Zone as shown on Sheet 40	Special Facilities Zone as shown on Sheet 40/18
The Shire of Caboolture	12th March, 1988	Part of Lot 159 on Plan CG 1964, parish of Toorbul, county of Canning	Rural Zone as shown on Sheet 20	Rural Residential C Zone as shown on Sheet 20/6
		Lots 11 and 12 on R.P. 191226, parish of Canning	Rural Residential A Zone as shown on Sheet 10	Partly Rural Residential C Zone and partly Rural Residential B Zone as shown on Sheet 10/17
The Shire of Crow's Nest	8th December, 1984	Lot 3 on R.P. 175062, parish of Meringandan	Rural "A" Zone as shown on Sheet 4	Residential "C" Zone as shown on Sheet 4/2
The City of Gold Coast	27th March, 1982	Lot 10 on R.P. 87879, parish of Nerang	Residential "B" Zone as shown on Sheet 12	Special Facilities Zone as shown on Sheet 12/50
The Whole of the Shire of Maroochy	14th December, 1985	Lot 6 on R.P. 225552, parish of Mooloolah	Rural B Zone as shown on Sheet 55	Rural Residential Zone as shown on Sheet 55/10
The Shire of Pioneer	26th November, 1985	Part of Lot 1 on R.P. 745269, parish of Bassett	Rural "A" Zone as shown on Sheet 68	Residential "A" Zone as shown on Sheet 68/5
The City of Redcliffe	19th April, 1986	Lot 4 on R.P. 92273, parish of Redcliffe	Residential "C" Zone as shown on Sheet 11	Special Facilities Zone as shown on Sheet 11/14
The City of Thuringowa	22nd October, 1988	Part of Lot 1 on R.P. 748026, parish of Bohle	Rural B Zone as shown on Sheet 24	Rural/Residential 1 Zone as shown on Sheet 24/15

Date: 29 October 2003
Contact: Ms K Harrison
Location: Nerang
Telephone: (07) 5582 8117
Your Reference: 2509180.JOHN.HODGKINSON
Our Reference: PN174590/16/-
[Search No 2331284]

Gold Coast City Council

DEACONS LAWYERS
GPO BOX 407
BRISBANE 4000
QUEENSLAND

STANDARD PLANNING AND DEVELOPMENT CERTIFICATE

UNDER SECTION 5.7.10 OF THE INTEGRATED PLANNING ACT

RATE ASSESSMENT NO: 23-04163-0000-9

PROPERTY NO: 174590

PREMISES DESCRIBED AS:

L247 RP854934 PARISH OF TALLEBUDGERA COUNTY OF WARD AND SITUATED AT CURRUMBIN CREEK ROAD CURRUMBIN WATERS

5.7.9 (a) DESCRIPTION OF ANY PLANNING SCHEME PROVISIONS APPLYING SPECIFICALLY TO THE PREMISES NOMINATED IN THE REAL PROPERTY DESCRIPTION.

The Domain Map and Local Area Plan Map indicates the preferred land uses for the various parts of the City. A description of the intended dominant form of development and the planning objectives for the subject land is given in Part 5 (Domains) and Part 6 (Local Area Plans) of the Planning Scheme.

DOMAIN/LOCAL AREA PLAN

The domain in which such land is situated:
Public Open Space

The local area plan in which such land is situated:
Not Applicable

The local area plan precinct in which such land is situated:
Not Applicable

Maximum Residential Density (within LAP):
Not Applicable

Maximum Building Height (within LAP):
Not Applicable

OTHER OVERLAY MAP/PLANNING STRATEGY MAPS

Overlay Maps and/or Planning Scheme Provisions to which such land is subject:

Overlay Map 1 - Rural Subdivision:
Applicable, Refer to Scheme Maps

Overlay Map 2 - Good Quality Agricultural Land:
Not Applicable

Overlay Map 3 - Cultural Heritage Site:
Not Applicable

Overlay Map 4 - Maximum Residential Density (outside LAPs):
Not Applicable

Overlay Map 5 - Minimum Lot Size:
Not Applicable

Overlay Map 6 - Maximum Building Height (outside LAPs):
2 Storey Maximum Height

Overlay Map 7 - Airport Environs:
Applicable

Overlay Map 8a - Airport OLS:
Not Applicable

Overlay Map 8b - Airport PAN OPS:
Applicable

Overlay Map 8c - Airport Noise Exposure:
Not Applicable

Overlay Map 8d - Airport Lighting Zone:
Outer

Overlay Map 8e - Public Safety Bird/Bat Zone:
Applicable

Overlay Map 9 - Airservices Australia:
Not Applicable

Overlay Map 10 - Potential Bush Fire Hazard:
Medium Potential Bushfire Hazard, High Potential Bushfire Hazard, Low Potential Bushfire Hazard

Overlay Map 11 - Wetland and Waterway:
Applicable

Overlay Map 12 - Foreshore Seawall:
Not Applicable

Overlay Map 13 - Canals and Waterways:

Applicable

Overlay Map 14 - Acid Sulfate Soils:
Applicable

Overlay Map 15 - Pacific Motorway Service Road Types:
Not Applicable

Overlay Map 16 - Unstable Soils:
Moderate

Overlay Map 17 - Potential Flood Inundation:
Refer to Council's Flood Strategies Department

Overlay Map 18 - Storm Water Drainage:
Not Applicable

Overlay Map 19 - Dam Catchment:
Not Applicable

Overlay Map 20 - Conservation Strategy:
Not Applicable

Overlay Map 21 - Public Open Space:
Not Applicable

Overlay Map 22 - Tourist Routes:
Applicable

Overlay Map 23 - Extractive Resources:
Not Applicable

Overlay Map 24 - Vegetarian Protection Order:
Not Applicable

Transmission Lines:
33 kv Network Not Applicable

Road Realignment:
Not Applicable

Council Communications Network (Microwave):
Not Applicable

(b) DESCRIPTION OF ANY DESIGNATIONS APPLYING TO THE PREMISES.
Nil

(c) STATEMENT OF THE AMOUNT OF ANY INFRASTRUCTURE CHARGE FOR THE PREMISES THAT HAS NOT BEEN PAID
Nil

5.7.10(1) *Note: FOR SUBSECTION (1) A DEVELOPMENT APPROVAL OR A DECISION NOTICE OR NEGOTIATED DECISION NOTICE FOR A DEVELOPMENT APPROVAL INCLUDES ALL CONTINUING APPROVALS MENTIONED IN SECTION 6.1.23(1)(a) TO (d) BUT NOT A CONTINUING APPROVAL MENTIONED IN SECTION 6.1.23(1)(e): section 5.7.10(2)*

(a) A COPY OF EVERY DECISION NOTICE OR NEGOTIATED DECISION NOTICE FOR A DEVELOPMENT APPROVAL THAT HAS NOT LAPSED.

FILE NO	DEVELOPMENT APPROVAL	DATE
560/20/2135	Rezoning Application Order In Council	18/01/90 12/03/92

(b) DETAILS OF ANY MINOR CHANGES TO THE DEVELOPMENT APPROVAL

Nil

(c) A COPY OF ANY JUDGEMENT OR ORDER OF THE COURT ABOUT THE DEVELOPMENT APPROVAL

Nil

(d) A COPY OF ANY AGREEMENT TO WHICH THE LOCAL GOVERNMENT OR A CONCURRENCE AGENCY IS A PARTY ABOUT A CONDITION OF THE DEVELOPMENT APPROVAL.

Nil

(e) A COPY OF ANY INFRASTRUCTURE AGREEMENT APPLYING TO THE PREMISES TO WHICH THE LOCAL GOVERNMENT IS A PARTY.

Nil

(f) A DESCRIPTION OF EACH PROPOSED AMENDMENT OF A PLANNING SCHEME THE LOCAL GOVERNMENT HAS DECIDED TO PROCEED WITH UNDER SCHEDULE 1, SECTION 16, BUT HAS NOT BEEN ADOPTED.

Nil

NOTES

(A) The use of the subject land for the purpose specified in an approval is subject to compliance with all conditions of that approval.

(B) Some records have either been lost, accidentally destroyed or have deteriorated during several transitions and certain information is therefore unable to be produced.

(C) This certificate reflects planning instruments in force at the time of preparation of this certificate. Council may introduce new, or amend existing, planning instruments (including planning schemes and planning scheme policies) from time to time. Nothing in this certificate fetters Council's ability to give effect to current or amended planning instruments or the exercise by Council of its powers generally.

(D) Persons should refer directly to applicable laws, planning instruments and development approvals to fully ascertain all limitations, qualifications and requirements applicable to development on or use of the premises.

Should you wish to clarify any issues contained in the above letter please do not hesitate to contact K Harrison on telephone (07) 5582 8117.

Yours faithfully

for Ian Glew
MANAGER STATUTORY PLANNING

L190/RM/mjh
560/20/2135
T/Planning Dept:FR
Minute No. P89 12 103

18th January, 1990

The Project Manager
Gordon Pacific
P O Box 322
SOUTHPORT QLD 4215

Dear Sir,

RE: REZONING APPLICATION NO. 2135 - ARMBAY PTY. LTD.
PROPOSED SPECIAL FACILITIES - GOLF COURSE & ASSOCIATED RECREATION FACILITIES, ACCOMMODATION UNITS & DWELLING HOUSES, HOTEL - MAX. 150 ROOMS, CURRUMBIN CREEK ROAD, PIGGABEEN ROAD AND HOFFSCHILDT ROAD, CURRUMBIN

With reference to the above application, I am directed to advise that Council intends to recommend to the Minister for Local Government, approval of the rezoning as described on the attached sheet.

Council's intention is subject to the attached conditions and shall be confirmed if no Appeal is lodged by the applicant or objectors within the prescribed period of 30 days.

Yours faithfully,

for: T.R. Moore
SHIRE CLERK

Encl.

REZONING

FILE NO. 2139

CONDITIONS:-

1. Development to be in accordance with concept plan 10.11.89 Hulbert Group unless otherwise approved by Council.

2. Dedication of a minimum of 6,000m^2 of parkland adjacent to Currubmin Creek Road to Council requirements.

3. Provision of roadworks along Currumbin Creek Road as follows:-

   Construction of an additional carriageway from the site to Villiers Drive. Submission of detailed engineering designs for approval of the Shire Engineer, prior to any development proceeding on the site.

4. Submission of a tree clearing plan for approval of the Shire Engineer, prior to any clearing of the site.

5. The company is to establish design controls on the ridge top housing with a view to minimising cut/fill and driveway earthworks to the satisfaction of the Shire Engineer. Housing in this area should be constructed predominantly of subdued colours.

6. Submission of detailed concept plans of all stages of the development for Council approval prior to building approval or subdivision application.

7. No house lots are to have direct access to Piggabeen Road. Provision of a 3 1k strip along the full length of Piggabeen Road adjacent to housing areas A.

8. The proposed hillside open space is to be set aside as a Park open to the public.

9. Provision of a public car parking area for eight (8) cars on Piggabeen Road to be located and constructed to Council standards at the applicant's cost.

10. All the existing hoop pine trees on Currumbin Creek Road and other special species on the property as determined by Council are to be retained and maintained in a healthy condition.

11. The proposed shopping area H is to be located in the centre of the development and near the hotel as approved by Council.

Cont...

CONDITIONS:-

12. All housing development is to be integrated with the ridgeline to the requirements of the Shire Engineer.

13. This rezoning approval is only for the following zones:-

Special Facilities - Golf Course and Associated Recreation Facilities, Accommodation Units and Dwelling Houses (maximum 645), hotel (maximum 150 rooms).

14. Payment of headworks contributions assessed on detailed development plans, and at Council's rates current at date of payment, to be made prior to commencement of development (i.e. building, subdivision or land use).

15. Compliance with all of the requirements of the Town Plan, and all Council bylaws regarding use of the land. A building approval is to be obtained prior to any building or structure being erected on the land.

16. Unless otherwise approved by the Shire Engineer, no filling to be placed on the land and no building development to be located below the flood level in accordance with Council Policy.

17. A report from a qualified engineer as to the extent and nature of fill proposed shall be submitted for the approval of Council, prior to filling operations commencing.

18. The eastern access to the Currumbin Creek Road is to be designed for a 60 km/hr through speed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include channelisation and overhead street lighting.

Access is to be by way of the existing access to the property, upgraded in accordance with Council and Main Roads Department requirements at the applicant's cost. No trees are to be removed without the prior approval of Council.

Dedication of the land required for the future southern carriageway of Currumbin Creek Road, at no cost to Council.

The intersection at Tierney Drive is to be designed by a qualified Traffic Engineer to the satisfaction of the Main Roads Department and is to include overhead lighting and channelisation.

Cont...

CONDITIONS:-

19. Construction of a 1.8 metre concrete bikeway/footpath is to be constructed along Currumbin Creek Road from Tierney Drive to the eastern extent of the site.

20. Provision shall be made for all site drainage and stormwater runoff to be channelled to the road, or drainage outlet designated by Council.

21. The development is not to pollute Currumbin Creek.

22. The use shall be conducted in such a manner as not to interfere with the amenity of the neighbourhood by reason of noise, vibration, fumes, soot, waste products, lights or anything whatsoever.

23. Provision shall be made for the land to be maintained in a clean and tidy state at all times. Satisfactory arrangements shall be made for the collection, storage and disposal of all waste materials, with placement of industrial bins in accessible locations.

24. Connection of the land to Council's reticulated sewerage scheme at a point nominated by Council, at full cost to the applicant, and including upgrading of the existing system as necessary.

25. Connection of the land to Council's water supply system at full cost to the applicant, including upgrading of the existing system as necessary.

26. No tree clearing is to be carried out except with the prior approval pursuant to Bylaw 30.

27. Siteworks, construction works or the like shall be conducted only between the hours of 7 a.m. and 6.p.m. Monday to Friday inclusive. No such works shall be carried out outside these hours or on Saturdays, Sundays or public holidays, unless specifically approved by Council.

28. All conditions of this approval are to be fully complied with and a certificate of classification pursuant to the provisions of the Building Act is to be obtained before buildings are occupied.

29. These conditions shall continue to apply upon gazettal of the proposed rezoning.

COB(5)560/20-2135(P5)
Mr J O'Connor

20 March, 1992

Mr N Suzuki Pty Ltd
Co-You Australia Pty Ltd
PO Box 7535
GOLD COAST MAIL CENTRE 4217

Dear Sir

REZONING APPLICATION NO. 2135 - ARMBRAY PTY LTD
PROPOSED SPECIAL FACILITIES - GOLF COURSE AND ASSOCIATED RECRETIONAL FACILITIES, ACCOMMODATION UNITS & DWELLING HOUSES (MAX.645), HOTEL (150 ROOMS MAX.), LOT 2 RP168012, LOT 247 PLAN WD4751 (FORMERLY PORTION 247) & LOT 1 PLAN WD4863 (FORMERLY RESUB 2 SUB 5 PORTION 24), PARISH OF TALLEBUDGERA, CURRUMBIN CREEK ROAD, CURRUMBIN
PROPOSED TOWN PLANNING SCHEME AMENDMENT

With reference to the above application, I am directed to advise that His Excellency the Governor in Council, gave approval to this application on 12 March, 1992.

Yours faithfully

for T R Moore
SHIRE CLERK

Encl

Queensland Department of Housing and Local Government

ALBERT SHIRE COUNCIL
RECEIVED
16 MAR 1992
ATT No. (7) TPA/6516
REFER TO TP
FILE No. ( ) 560/20-2135 (P5)

COPY TO DTP1 + SUBE
560/20-2

The Shire Clerk
Albert Shire Council
PO Box 172
NERANG QLD 4211

Your Reference: RA:(9)560/20-2135(P5); FR(1)560/20-2366; FR(5)560/20-2392; FR(7)560/20-2367;
Our Reference: TPA/6505, 6441, 6536, 6649, 6650 CM:KR
Enquiries: Minutes & Publications
Extension: (07) 237 1858

12th March, 1992

Dear Sir,

With reference to previous correspondence, I am directed to inform you that His Excellency the Governor in Council today gave approval to an Order in Council amending the town planning scheme for the Shire of Albert by the rezoning of certain lands situated at Corner Loane Drive and Grove Road, Edens Landing; Currumbin Creek Road, Piggabeen Road and Hoffschildt Drive, Currumbin; Logan River Road, Edens Landing; 7004 Pacific Highway and Penny Lane, Andrews and 24 Railway Street, Mudgeeraba.

A copy of such Order in Council, which will be published in the Government Gazette on the 13th March, 1992 is enclosed for your information.

The scheme maps referred to in the Order in Council, which scheme maps have been signed for identification by the Clerk of the Executive Council, are being forwarded under separate cover.

Yours faithfully,

M.V. Tucker
Director of Local Government.

Address Correspondence to:
The Director-General PO Box 31 North Quay Brisbane 4002
Telephone: (07) 237 1328 Telex: Oil Corp

ORDER IN COUNCIL

At the Executive Building, Brisbane, the twelfth day of March, 1992

Present

His Excellency the Governor in Council

HIS Excellency the Governor, acting by and with the advice of the Executive Council and under the *Local Government (Planning and Environment) Act 1990* and the *Local Government Act 1936*, in relation to applications to amend the town planning schemes referred to in the Schedule made by the relevant Local Authorities under the *Local Government Act 1936* (being matters that, under section 8.10 of the *Local Government (Planning and Environment) Act 1990* are to be dealt with as if that last-mentioned Act had not commenced), hereby notifies the approval of the amendments of the town planning schemes set out in the Schedule.

And the Honourable the Deputy Premier, Minister for Housing and Local Government is to give the necessary directions herein accordingly.

E. J. BIGBY, Clerk of the Council

The Schedule

Town Planning Scheme	Date of Notification of Approval of Town Planning Scheme	Description of Land Rezoned	Zone from which said Land Excluded and Zoning Maps Affected	Zone in which said Land Included and Zoning Maps Affected
The Shire of Afoort	19th March, 1988	Part of Lot 1 on R.P. 150831, parish of Boyd	Future Urban Zone as shown on Sheets 6 and 10	Residential A Zone as shown on Sheets 6/8 and 10/9
		Lot 2 on R.P. 168012, Lot 247 on Plan WD 4751 and Lot 1 on Plan WD 4863, parish of Tallebudgera, county of Ward	Special Facilities Zone as shown on Sheets 52/11 and 80/2	Special Facilities Zone as shown on Sheets 52/16 and 80/5
		Part of Lots 3 and 4 on R.P. 105833, parish of Boyd	Partly Future Urban Zone and partly Residential A Zone as shown on Sheet 10	Rural A Zone as shown on Sheet 10/10
		Lot 4 on R.P. 201084, parish of Mudgeeraba	Medium Industry Zone as shown on Sheet 45	Special Facilities Zone as shown on Sheet 45/12
		Lot 1 on Plan WD 4572, parish of Gilston, county of Ward	Special Business Zone as shown on Sheet 40	Special Facilities Zone as shown on Sheet 40/18
The Shire of Caboolture	12th March, 1988	Part of Lot 159 on Plan CG 1964, parish of Toorbul, county of Canning	Rural Zone as shown on Sheet 20	Rural Residential C Zone as shown on Sheet 20/6
		Lots 11 and 12 on R.P. 191226, parish of Canning	Rural Residential A Zone as shown on Sheet 10	Partly Rural Residential C Zone and partly Rural Residential B Zone as shown on Sheet 10/17
The Shire of Crow's Nest	8th December, 1984	Lot 3 on R.P. 175052, parish of Meringandan	Rural "A" Zone as shown on Sheet 4	Residential "C" Zone as shown on Sheet 4/2
The City of Gold Coast	27th March, 1982	Lot 10 on R.P. 87879, parish of Nerang	Residential "B" Zone as shown on Sheet 12	Special Facilities Zone as shown on Sheet 12/30
The Whole of the Shire of Maroochy	14th December, 1985	Lot 6 on R.P. 225552, parish of Mooloolah	Rural B Zone as shown on Sheet 55	Rural Residential Zone as shown on Sheet 55/10
The Shire of Pioneer	26th November, 1983	Part of Lot 1 on R.P. 745269, parish of Bassett	Rural "A" Zone as shown on Sheet 68	Residential "A" Zone as shown on Sheet 68/5
The City of Redcliffe	19th April, 1986	Lot 4 on R.P. 92273, parish of Redcliffe	Residential "C" Zone as shown on Sheet 11	Special Facilities Zone as shown on Sheet 11/14
The City of Toowoomba	22nd October, 1988	Part of Lot 1 on R.P. 748026, parish of Bohle	Rural B Zone as shown on Sheet 24	Rural/Residential 1 Zone as shown on Sheet 24/15

GOLD COAST GOLF RESORT CURRUMBIN

APRIL 2004

Volume 1	Executive Summary and Town Planning Report
Volume 2	Site Planning and Design Guidelines Report
Volume 3	Visual Analysis and Landscape Intent Report
Volume 4	Technical Reports
Volume 5	Site Based Management Plan

Prepared For

DEVINE LIMITED

Coordinated by

BRANNOCK & ASSOCIATES
PLANNING AND ENVIRONMENT CONSULTANTS
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Attachment A – height Concepts (2 & 3 storeys)

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FOREWORD/EXECUTIVE SUMMARY

The concept plan for the Gold Coast Golf Resort Currumbin and the design guidelines for the residential housing, hotel and the golf club, has evolved in response to the geography and ecology of the site, the strategic goals and outcomes of the developer and analysis by various consultants.

This report outlines the preliminary development of the concept design and is to be read in conjuction with other reports detailing specific related issues.

The vision for the concept is one of the highest quality of design for all disciplines as well as considering both the local community and the local environment by providing valued facilities and a respect for the natural assets.

The predominant physical factors affecting the concept are the geography, existing vegetation, water management, the views provided from elevated land and the recreational value of the flat land.

These have affected the location and configuration of roads and the siting of buildings particularly with respect to the slope of the land.

The residential housing will be provided for in a variety of types, including single residences, various styles of units, 5 plex, twin villas and condominiums distributed along the golf course, on the slopes overlooking the golf course and along the NSW border ridge. There has been specific attention given to the residential precincts to encourage a strong sense of neighbourhood and community ownership and create appropriate hierarchies of open space including natural, active, passive, linkages, streetscape and entrances.

The golf club and hotel will provide golf resort style facilities for the recreational benefits of both the residents of the Gold Coast Golf Resort and the wider community of Currumbin.

The synergy between the built environment, the semi rural lifestyle and the natural domain will provide a benchmark development with an enduring ambience of relaxed Gold Coast living.

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1.1 Purpose of the Report

The purpose of this report is to outline the various site parameters that have been considered and overlaid to form the basis of the proposed Concept Plan. The report establishes the design parameters, intent and guidelines for development over the whole site which will occur in stages in four different precincts (Precincts A-D, which are specific to this report only).

Development for each stage/precinct is to occur in accordance with the design guidelines contained in this document.

1.2 Process

The proposed Concept Plan was established following consideration and synthesis of the following:-

- The approved Hulbert Group Plan (dated 10th November 1989).
- Slope and geotechnical considerations.
- Flora and Fauna.
- Visual Impacts.
- Bushfire management issues.
- Hydrology.
- Infrastructure services.
- External road impacts.

The report provides an overview of the key constraints and issues that have been addressed.

1.3 Environmental Considerations

Currumbin Valley is a vital connection between the coastal and hinterland communities. It provides an important natural corridor supporting eucalyptus forests, pockets of rainforest and is inhabited by a wide range of fauna. Currumbin Creek and the floodplain complement the environmental system of the valley.

The originat pristine forests have been altered substantially with agricultural practices over time, and today the accepted physical beauty of the area is based on the existing vegetation to be preserved, the remnant rural land uses, the open landscape for dwellings and the magnificent views.

The emerging lifestyles of today blend the need for good design and planning with the increasing awareness of global environmental concerns. The opportunity to plan and develop a community that can achieve these goals in close proximity to a coastal city is rare.

The planning philosophy related to the environment is simply to sensitively interpret new habitation, rehabilitate the landscape and minimize disturbance.

To assists these ideals, policies can be implemented that benefit not only the site but also the immediate region. Water management, both storm and waste and the implementation of recycling are basic steps to ensure medium and long term responsibility.

The design and construction of buildings should assertively embrace active and passive energy conservation. In the near future, a building's value will automatically be affected by its energy efficiency and these buildings are being constructed today.

1.4 Environmental Constraints

Due to the careful and detailed assessment and studies of the site, the key environmental constraints have been identified as follows:-

- Border ridge wildlife corridor.
- Open eucalyptus and particularly blackbutt forests.
- Rainforest gullies.
- Integrity of creek system in floodplain.
- Minority of unstable areas.

Other issues to be addressed as a matter of responsible planning include:-

- Preservation of groves of trees.
- Rehabilitation of existing watercourses around original dam sites.
- Bushfire management.
- Road design to minimize slope disturbance.
- Landscape management and irrigation strategies.
- Revegetation and rehabilitation of the existing landscape.

1.5 Particular Site Response

The environmental resort style facilities and the residential precincts in particular, present a distinctive and varied landscape character, which demands a response in overall planning and detailed design. Its fragility, in terms of landform, soils and existing vegetation, need to be acknowledged and addressed through solutions that work with, rather than against, the landscape. Through a sensitive and appropriate response to the site, a relevant, workable, economic and suitably integrated landscape outcome can be achieved.

1.6 Sustainable Design Considerations

Materials and technologies utilized in the development need to be considered in terms of 'sustainable design' considerations. Informed decisions on initial expenditure, the correct materials, construction processes and service infrastructure will produce lower overall costs when considered over "whole of lifecycle."

2.0 DEVELOPMENT AIM AND GOALS

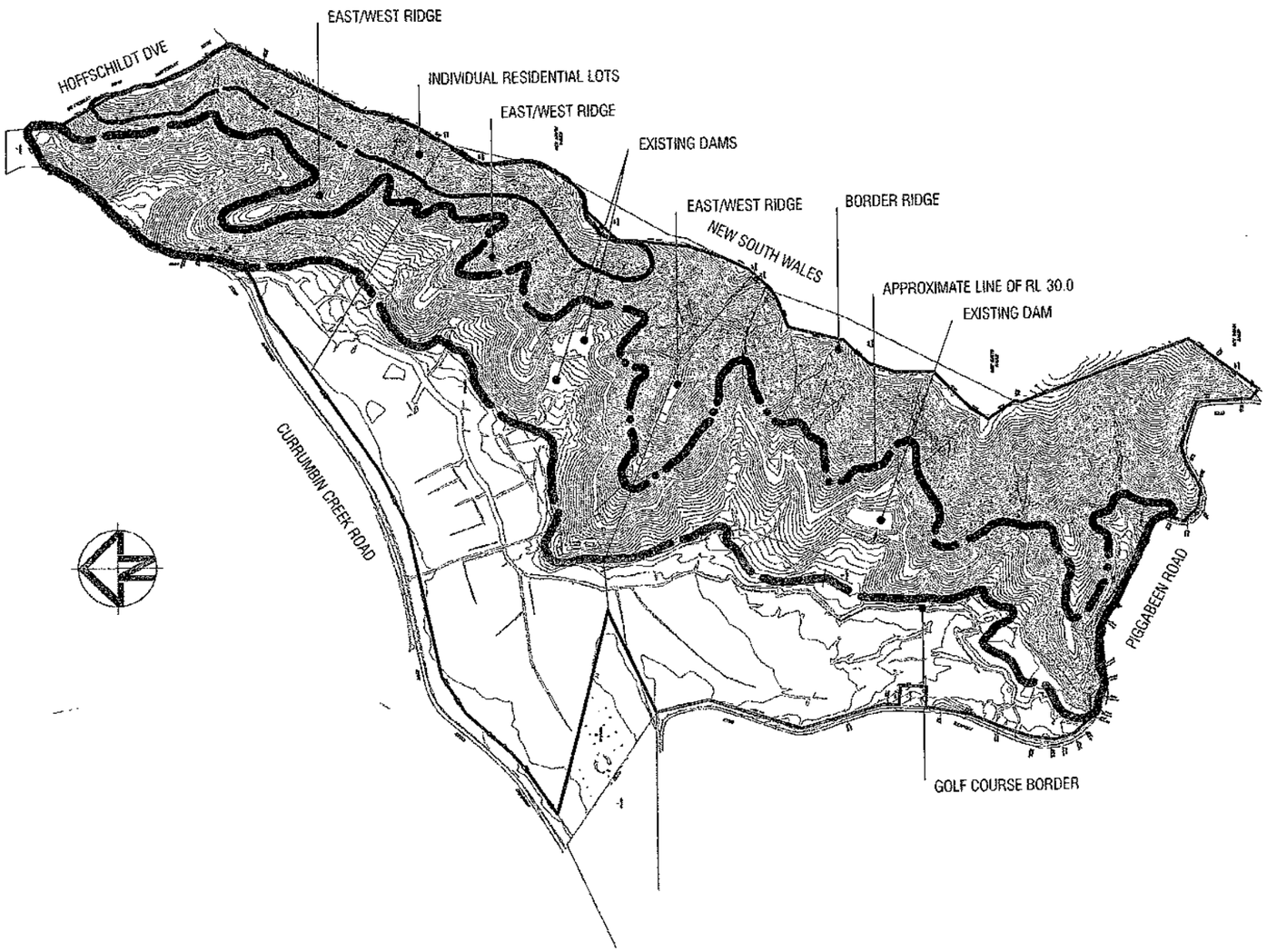
2.1 Vision for Gold Coast Golf Resort Currumbin

The Gold Coast Golf Resort Currumbin is a gateway to the valley. It has the unique opportunity to preserve substantial natural bushland, rehabilitate a depleted farming landscape and provide a showpiece golf course, which is in effect the landscaped garden dress circle for a variety of residential lifestyles, a golf clubhouse and a 96 key hotel. This relaxed environmentally aware lifestyle in a country setting is truly unique and illustrates the ease at which development can be environmentally respectful and synergetic. Whether elevated with distant views, or in communion with the forest, the lifestyle vision is one of understated peace and harmony with nature.

2.2 Goals for development of Gold Coast Golf Resort Currumbin

To create a benchmark development with goals that are tailored to the uniqueness of the site and which will evolve from the following:-

- Leave the undisturbed natural environment alone.
- Preserve in excess of 90% of all trees, with selective clearing to be predominantly invasive species.
- Generate a destination that has a powerful sense of place based on the natural character.
- Reinforce the visual sense of arriving at a rural community with "natural" landscaping to entries, utilizing water and the "mountain stream" nature of the site.
- Recognise the natural assets and opportunities.
- Generate micro communities that contribute and enhance the environmental context.
- Create precincts with distinctive character which will utilize the terrain and immediate environment.
- Demonstrate an architectural style that is landscape sensitive, economically sustainable, aesthetically appealing and structurally sound.
- Deliver a variety of housing and recreational facilities suitable to the market.
- Create a clubhouse that provides recreational amenity, and a golf course that enhances the creek environment, addresses the flooding issues and creates a challenging and memorable golf experience.
- Include a 96 room eco-resort hotel and a condominium precinct to enhance the golf and residential facilities by providing market variety and balance.
- Develop golf course living in a sensitive way that provides visual and architectural distinction, lifestyle variety and maximizes the aspect and proximity opportunities.
- Develop residential houses and units that are appropriate and ecologically responsible for hillside environments.
- Ensure flexible design principles that will accommodate the variety of terrain conditions.
- Develop individual residential lots that blend into the ridge, maximize views and preserve the natural skyline as the predominate element. Selective positioning of buildings will be a principle design criterion.
- Integrate the construction of road retaining walls and the fabric of buildings where possible to reduce costs and improve visual amenity.
- Design roads that constrain necessary cut and fill to a minimum.



3.2 Site Character Analysis

Preserving the site's natural assets, the opportunity arises to capitalize on a market position that reflects the needs of today and the benefits for tomorrow. Blending eco development and social amenity is a sound philosophy.

3.2.1 Topography

The border ridge on the eastern boundary falls gradually from south to north. The highest point near the southern boundary is approximately RL105m, the elevation at the northern corner is about RL30.0m

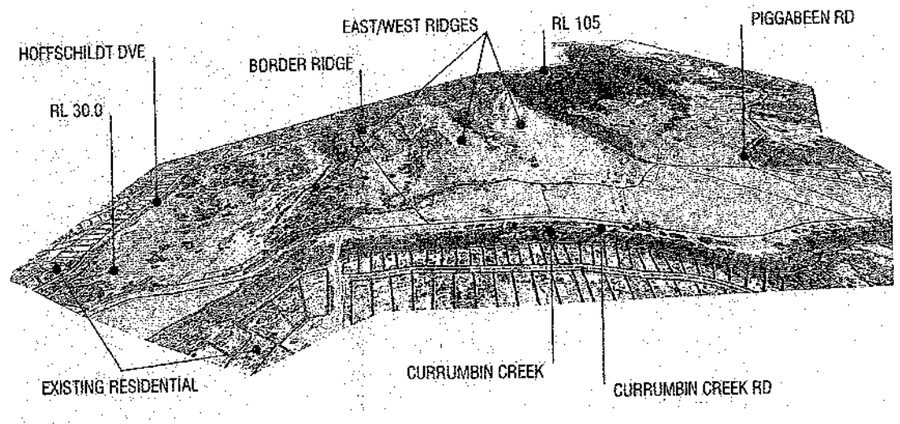
The western side of the main ridge falls to the flatland in the Currumbin Creek floodplain in a folded pattern of gullies and small ridges running east/west.

These slopes vary from 5% to 16% along the main ridge and 16% to 28% on the upper slopes of spurs and ridges. At the heads of steep gullies this increases to between 35%-39% and in some areas up to about 45%.

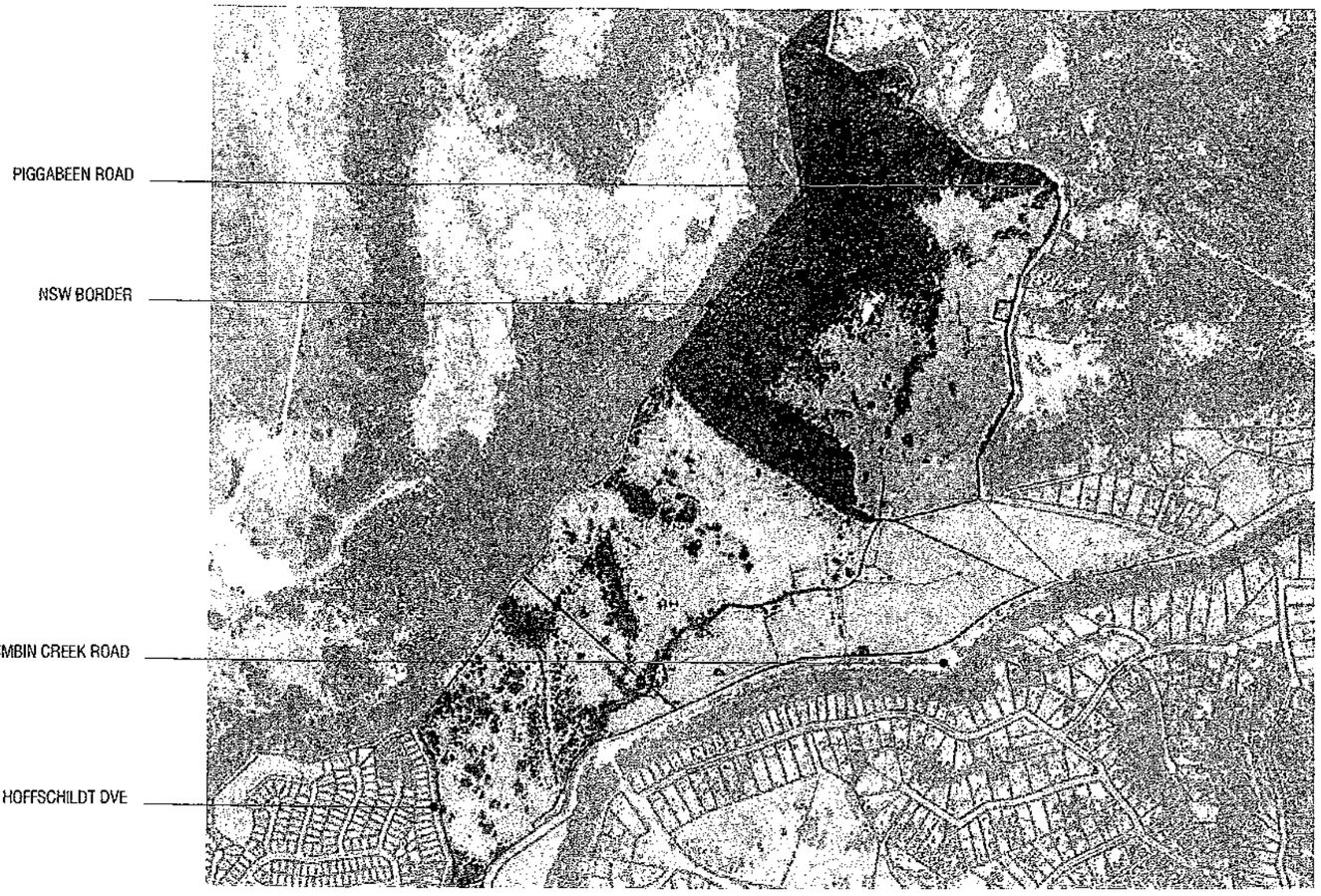
Generally, development will occur below about RL30.0m and on gradients no greater than 30%.

Development above RL30.0m will be restricted to some units on the two main east/west ridges and the individual residential lots along the rim of the border ridge, where building pads will be selected to suit the topography. As a result of building the majority of product below 30.0m, there will be a visual impression that only the lower slopes have been utilized.

Small dams had previously been formed in some of the lower gully areas and these provide opportunities for modification into more natural watercourses to showcase neighbourhood development in their vicinity.



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3.0 LOCAL LANDSCAPE AND SITE CHARACTER ANALYSIS

3.1 Local Landscape

The site is bordered on the north by Hoffshildt Drive, the south by Piggabeen Road, with Currumbin Creek Road on the west and the east boundary generally following the State border.

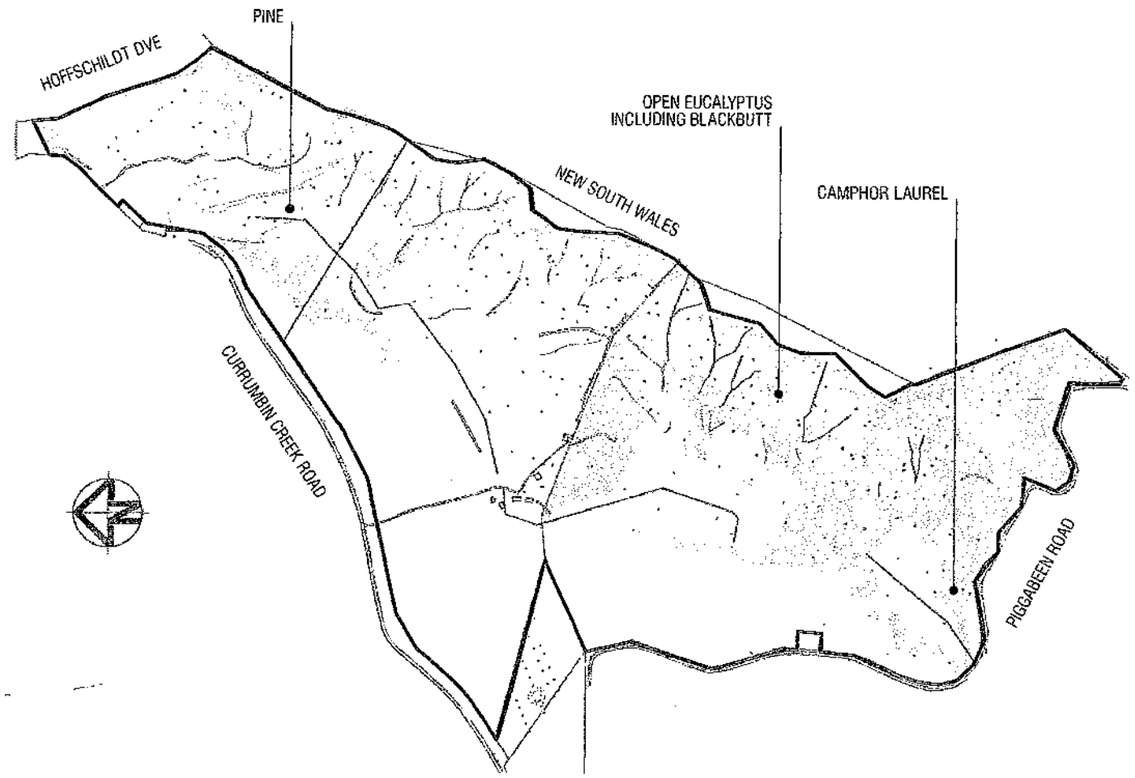
The predominant physical features of the site are the main ridge along the border and the eucalyptus forests to this ridge and the south east corner of the site.

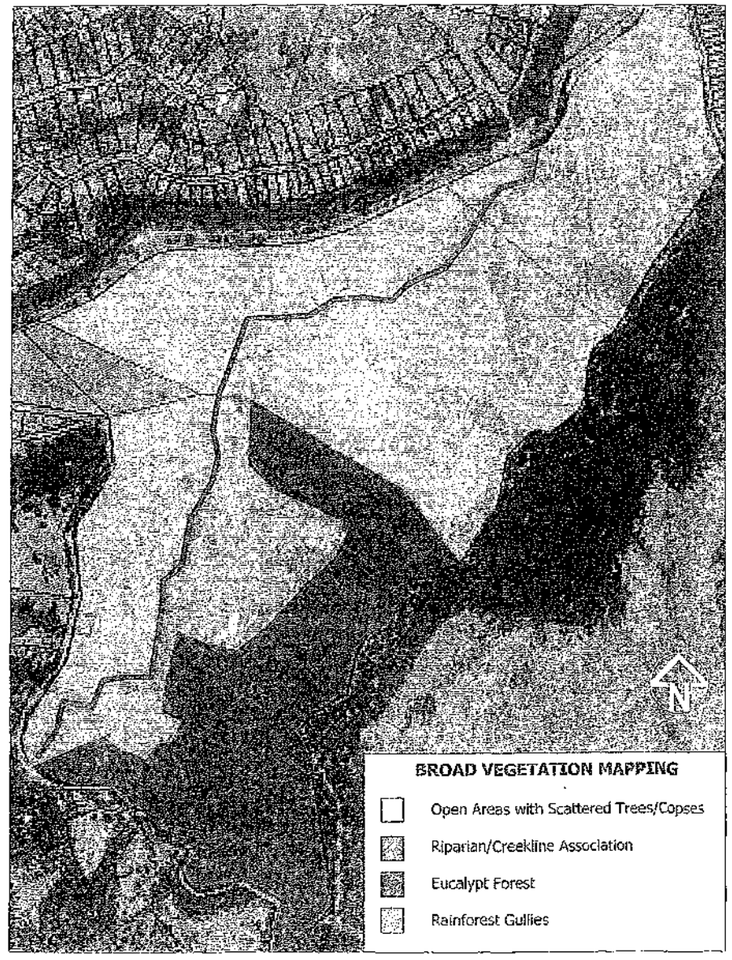
The other significant feature is the flat land and creek bordering Currumbin Creek Road.

The western facing slopes of the northern sector have been denuded of tree cover over the years and on one ridge, introduced species (mostly pine), have been planted. These slopes provide panoramic views sweeping in an arc from the hinterland ranges in the south and west, and up to the coast to the north.

Since the existing forest will remain virtually untouched, development will occur in the balance of open hillside areas which will be treated to ensure the following:-

- Development should prevent damage to the slopes.
- Cutting into slopes where required for roads etc will be minimized.
- Reinstatement of appropriate flora and natural features such as creeks in such a way that wild-life corridors and habitat are expanded wherever possible.
- Maintain accessibility to vantage points.
- Allow significant revegetation with native species.
- Minimise visual impact of any built forms, so that they are incidental to the landscape.





3 2 5 Flora and Fauna

An ecological assessment has been carried out under a separate report and identifies the existing various flora and fauna of the site.

The vegetation mapping indicates the greater portion of the site as open areas with scattered trees, a riparian creek line, eucalyptus forest and rainforest gullies. The eucalyptus forest contains mixed open eucalyptus and the blackbutt stands.

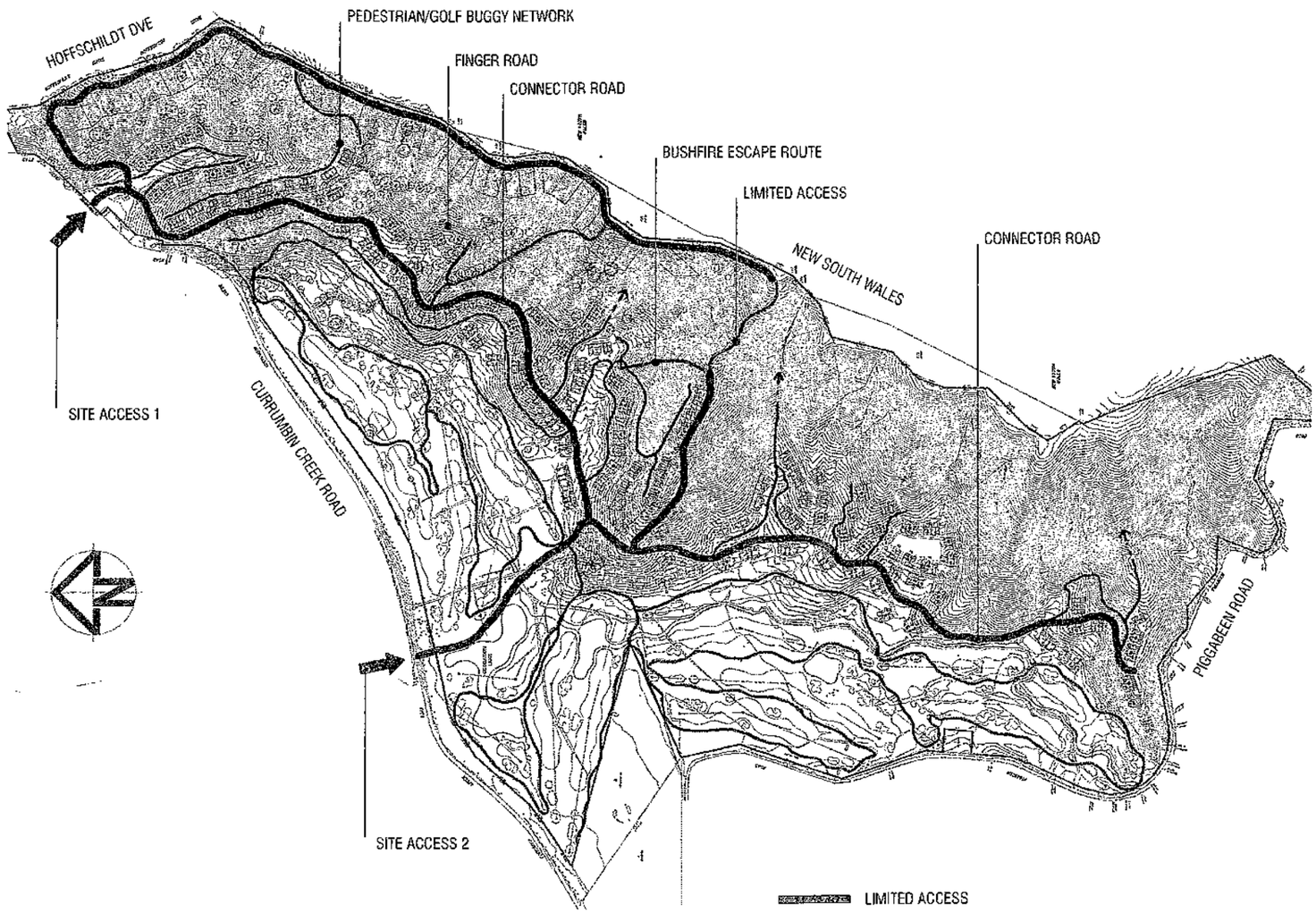
Development is planned in the open areas with only minimal disturbance to any treed areas. Where this does occur, it mostly affects areas of introduced species such as pine and camphor laurel.

The areas of mixed open and blackbutt eucalyptus have been retained as natural environment.

Development in proximity to the open forest will be sensitively located to minimise possible disturbance. The blackbutt will not be disturbed.

The fauna studies indicate areas of significance that shall be preserved, occur in the open eucalyptus and blackbutt forest and in particular in the rainforest gullies traversing these areas.

Development will avoid interference with this fauna community. It is intended that the reinstatement of landscaping in the areas of development will have a positive impact on those species of both flora and fauna that can co-exist with development by providing linkages between those areas where corridors are beneficial.



3 2 6 Circulation Network

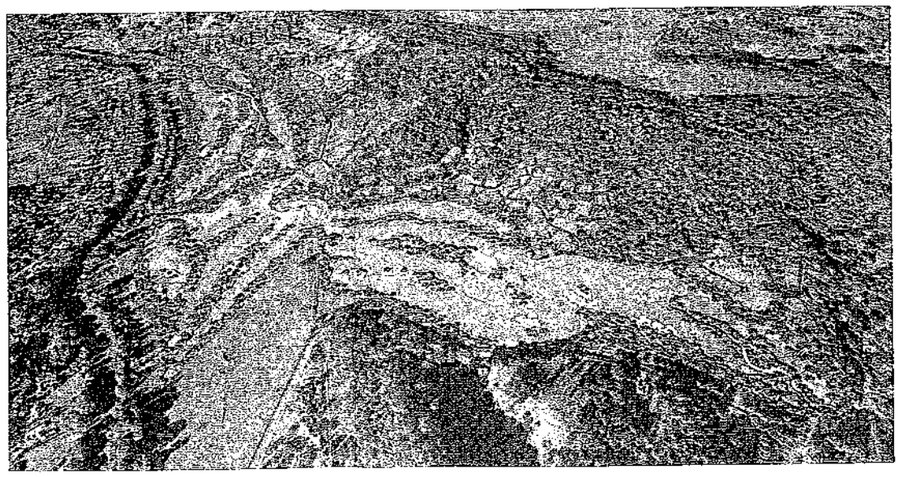
There will be two established entry points for site access to the Gold Coast Golf Resort Currumbin. The first will be toward the northern end of the site on Currumbin Creek Road. The second and principal address will be approximately 90 metres southwest of the current formed entry on Currumbin Creek Road. It will provide a wider and safer entry off Currumbin Creek Road without any impact on the large existing pine trees along the eastern side of Currumbin Creek Road.

The principal facilities generating most traffic by the public, such as the golf club and hotel, will be located on the entry road so as to avoid intrusive traffic into residential areas.

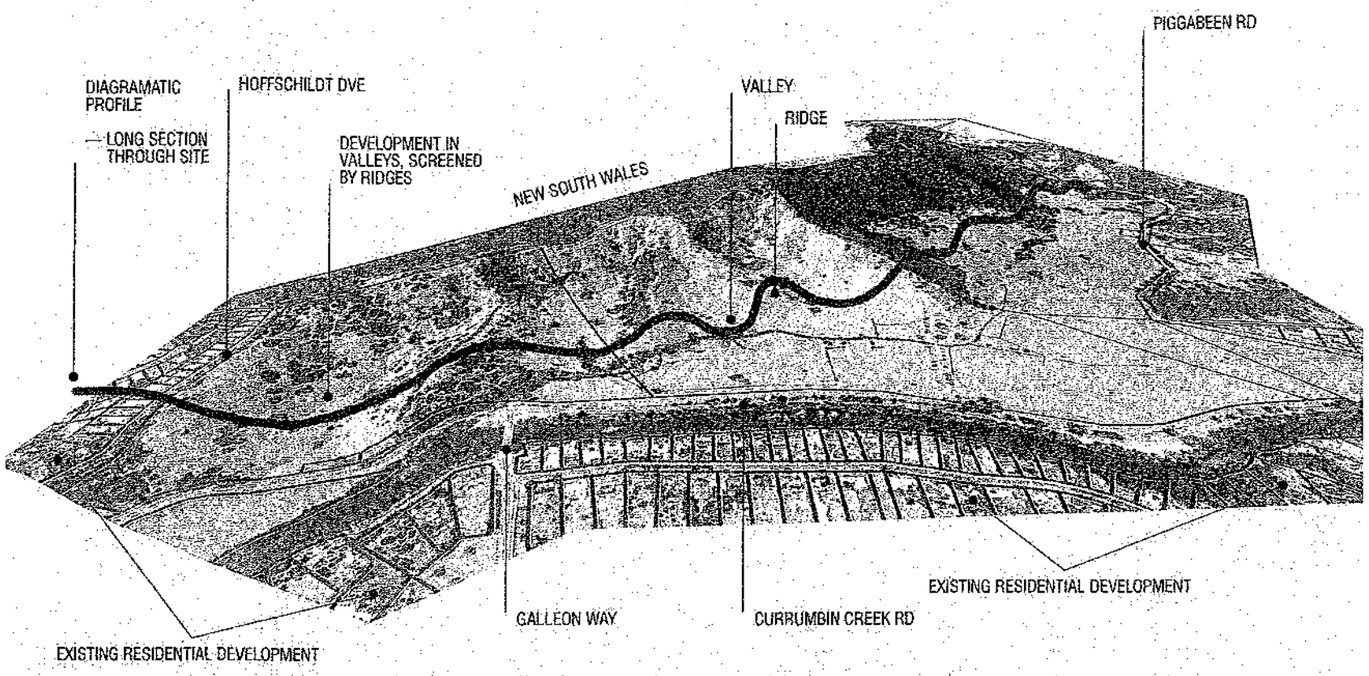
The road patterns in the "Hulbert Plan" have evolved in respect to the engineering and development constraints of the topography. The various residential precincts will be serviced by north south connection roads between the two entries. Fingers will branch off this to access neighbourhood building zones. A southern connector road from the clubhouse will service the southern neighbourhood clusters.

The residential lots along the border ridge will be serviced by an upper road. This will also include required bush fire escape routes.

Where road gradients exceed that of pedestrian limits, separate trails buggy paths or walkways will connect dwellings at a lower level. All dwellings will have a connection to the recreation facilities.



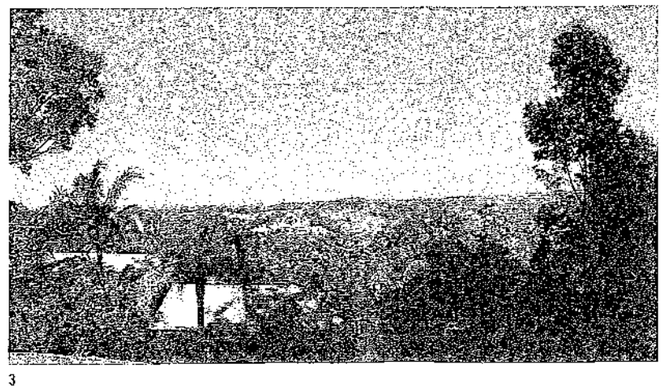
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3.2.7 Bushfire Exposure

The management of potential bushfire hazard is contained in the site based management plan.

3.2.8 Density and Built Form

The surrounding urban residential developments consist of traditional lot layouts of varying sizes and configurations, with built forms not fully sympathetic to the landscape.

The development to the north consists of average urban size lots reflecting a tight configuration and density compared to the lots along the west of Currumbin Creek which vary from medium to large in area.

Compared to these surrounding developments, the Gold Coast Golf Resort Currumbin will produce a less dense development.

In terms of the general mix and yield, the proposal will be as follows:-

- Residential lots – 34
- Units and Townhouses – 520
- Hotel 48 Dual Keys – 96 rooms

Given that the site area of Currumbin Valley is 148.047 hectares and based upon 554 residential dwellings, the site density would be 3.742 dwellings per hectare.

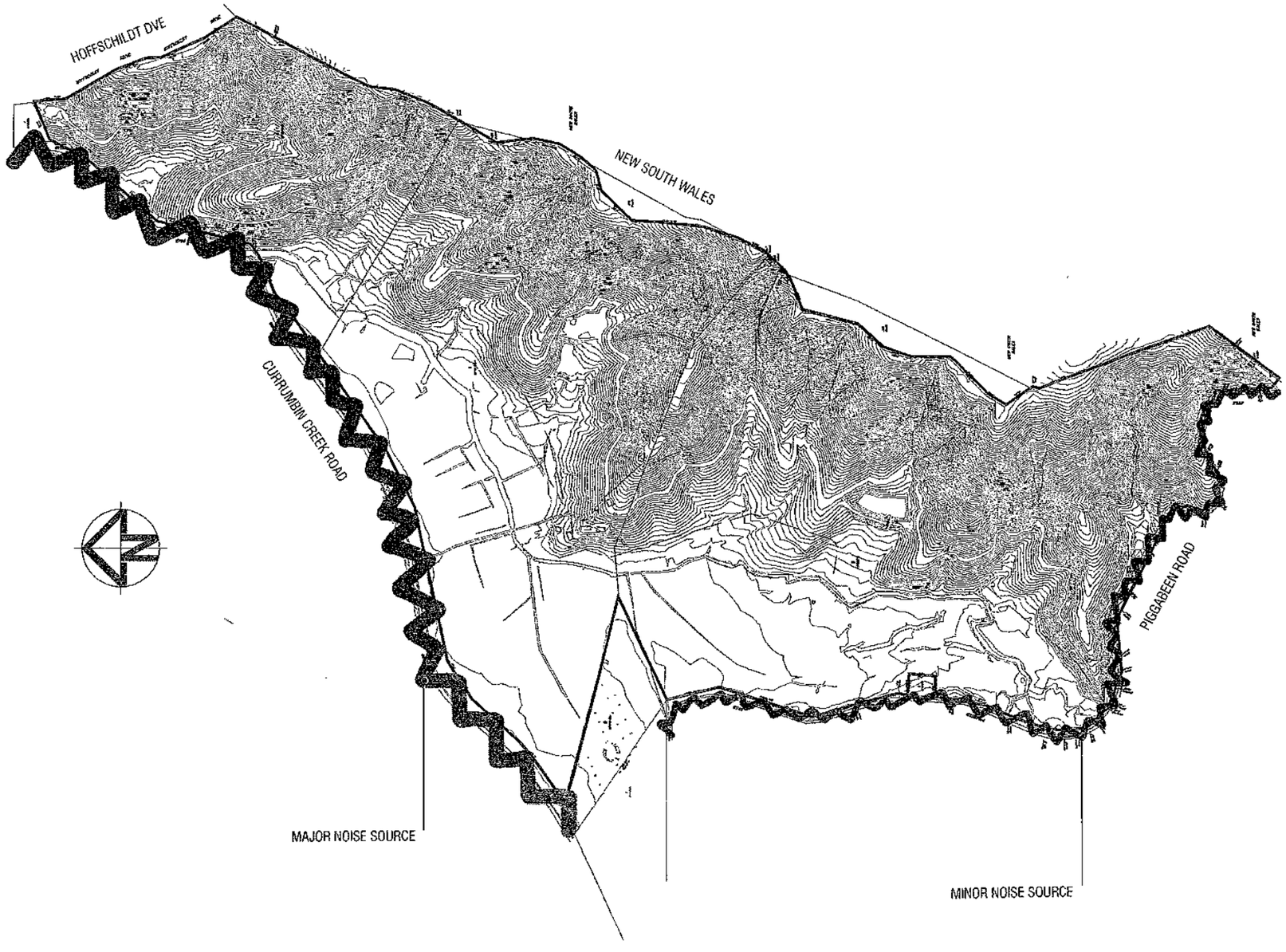
Including the hotel of 96 rooms, the density would be 4.390 dwelling units per hectare.

The built form will consist of detached houses, units, hotel and golf club with generally 2 and 3 level configurations depending on the gradient of the site. Houses, duplexes, villas and units will be designed to touch the ground lightly by way of suspended floors supported on columns/piers/posts. The undercroft areas will be landscaped and screened so that the structures visually recede into the landscape.

The built form will be distributed in such a way that, apart from the border ridgeline lots, development will appear as clusters, either within the valleys or as landscaped groupings on the edge of ridges. The built form will be discreet in its entirety from Currumbin Creek Road due to the undulating nature of the terrain and the landscaping, both existing and new.

1 existing built form
2 existing view from currumbin creek road
3 existing view from western ridge of valley

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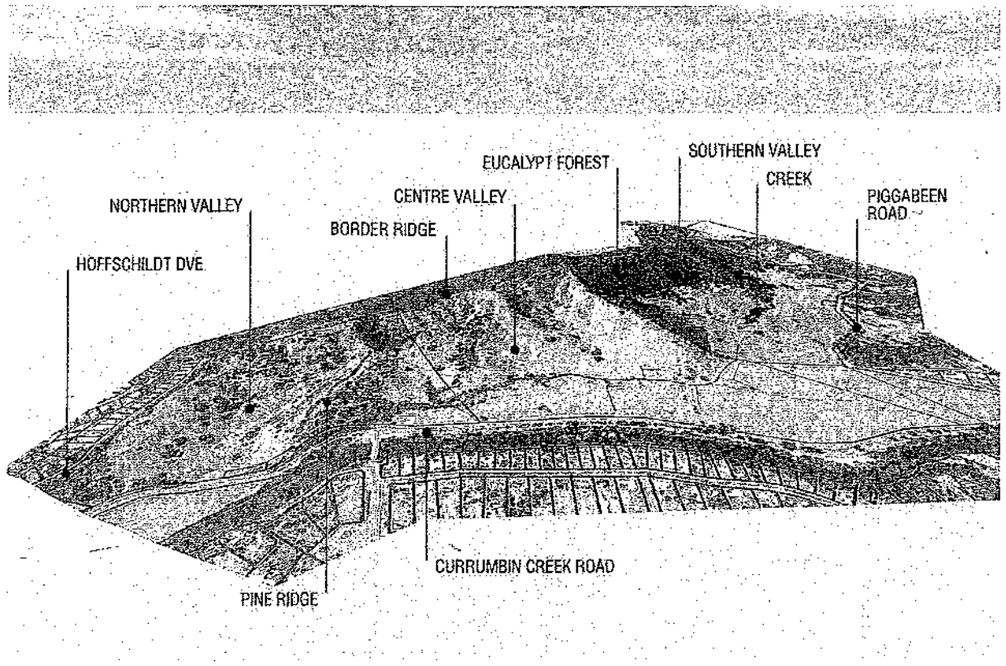


3.2.9 Noise Environments

The principal source of noise generation affecting the site is expected to be restricted to traffic on Currumbin Creek Road and to a lesser extent on Piggabeen Road.

Since the golf course provides a substantial buffer zone, it is expected that the majority of the site will not be directly affected.

Dwellings may require attention on the most southern ridge abutting Piggabeen Road, due to their elevated position and the proximity of Piggabeen Road. Some consideration may also need to be given to dwellings in the northern valley adjacent to the entry point on Currumbin Creek Road.



1

4.0 VIEWS

4.1 Landscape and Visual Amenity

Currumbin Valley as a district, has ecological and historical significance. The visual character is rural in a valley setting. The dominant elements are the ridges, flood plain and Currumbin Creek.

The value of the site is the synthesis of its intrinsic beauty, its biophysical range and diversity and the development constraints that will secure the uniqueness of the valley.

The site when viewed from the west (at an altitude), reveals four prominent ridges roughly orientated east west. The two most dominant ridges divide the site into three visual experiences. Each of these is visually independent of the others. The scale and vegetation of each is also quite distinctive. The development patterns that result, diminish the visual impact from one "large" development into groupings of smaller scale, with an organic or rural rambling, rather than an urban geometry.

Due to the high visual mass of ridges above the majority of development, and the lineal nature of planning, the general visual impact will be one of comparitively low density, with minimal visual impact.

This sense of low visual impact to the area will be further enhanced by the effect of the tree buffer that screens the existing urban development on the western side of Currumbin Creek.

4.2 Views to the Site

Travelling south, the first view of the site is of the northern valley which is screened from the road by a ridge, visible for only a relatively brief distance before the "pine ridge" changes the vista to the next or centre valley.

This northern valley is contained in scale, secluded in feeling and dominated by the pine along the southern slope and the sparsely treed northern slope.

The head of the valley to the east is dominated by the border ridge.

The second view, the centre valley, is defined by the pine ridge to its north, and the prominent ridge defining the open eucalyptus forests to the southern part of the site.

The views of this valley from Currumbin Creek Road are currently framed by the pine trees along the eastern edge of the road. This valley is sub divided into three smaller valleys which are sparsely treed. The middle foreground is dominated by a line of trees along the creek, which will ultimately provide some screening to development along the golf course.

The border ridge forms a back drop with tall trees providing a visual scaling down of the residential lot development.

The third or southern valley extending from the dominant centre ridge at its northern end to Piggabeen Road at the south, becomes a distant vista from Currumbin Creek Road, with the flood plain dominating the foreground. The middle distance, where development in this area will be concentrated, is partially screened by trees along the line of the creek. The overall background will be dominated by the eucalyptus forest providing a scale that will visually diminish any development.

This is also partially a result of the fact that buildings will be located at a relatively low level compared to the overall height of the border ridge, and the thin density of development generally in this area.



3 4 5

1 aerial view of site
2 existing view from west side of valley
3 existing view of northern valley from currumbin creek road
4 existing view of centre valley from currumbin creek road
5 existing view of southern valley from currumbin creek road

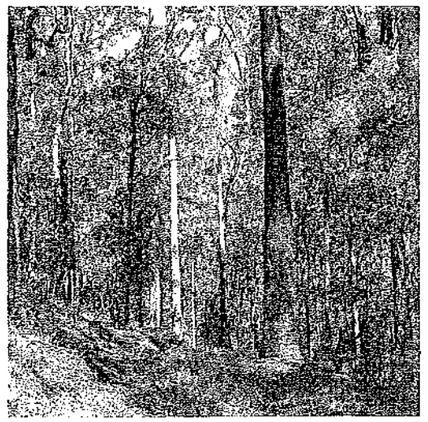
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1 distant views
2 middle distance
3 foreground

4.3 Views from the Site

In general, the views from the site are significant. They are generally of three categories:-

- Distant views.

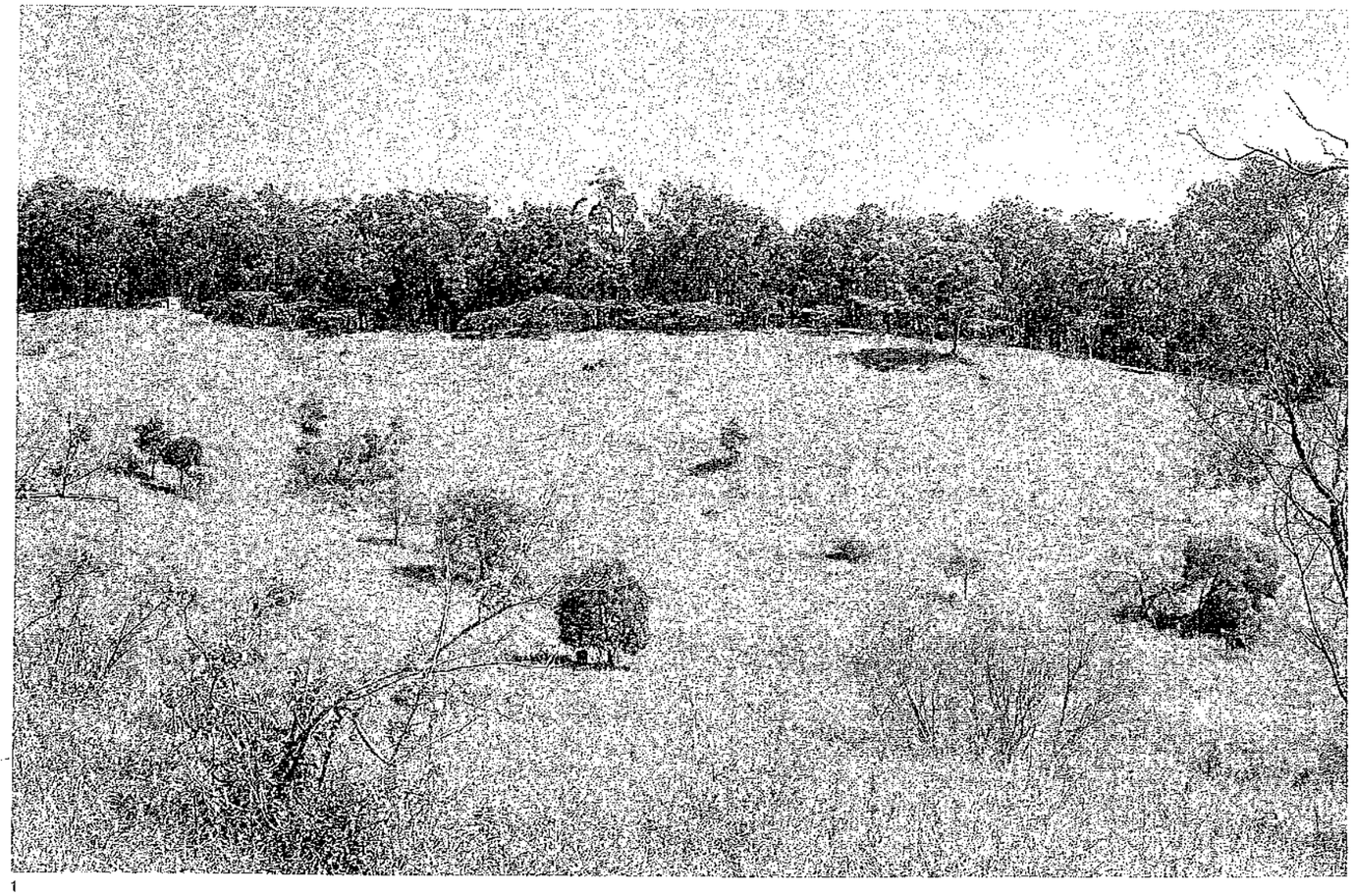
The residential lots along the ridge have panoramic views of 180° from the Springbrook Escarpment to the ocean. As with all views of this nature, there is a universal sense of scale and distance.

- The middle distance.

These views are experienced from the higher levels of the developable sites and include vistas over the immediate valleys and golf course. The back drop to the west is the ranges beyond Currumbin Creek. These create a sense of place defined within Currumbin Valley generally.

- The foreground.

These views are noted for their proximity to geographical features such as dams, creeks, rainforest or groves. They invest a feeling of partial isolation, silence and peace.



1



2

1 skyline
2 existing southern valley skyline

4.4 Skyline

The skyline and how it appears is of immense importance in the wider urban context. There is a natural response to preserve natural skylines and the desire to avoid their fragmentation.

The skyline along the border ridge consists of mature, tall, open eucalyptuses which are part of an existing wildlife corridor. Any development along this ridge would therefore be dominated by the tree canopy. The skyline of other ridges (east/west) will present differently, depending on the degree of existing tree cover. In general, where a skyline is currently defined by canopy, it will be preserved. Where development will form a skyline, it would only be in limited areas already devoid of trees and with limited visibility from internal valleys.

6.0 SITE CHARACTER SYNTHESIS

6.1 Site Characteristics

A comprehensive reporting analysis has been carried out by the various disciplines required to establish the parameters for development and are contained in seperate documents.

The advanced concept plan has evolved from consideration of the following:-

- Establishment of restricted areas of development with regard to flora and fauna.
- Soil condition and any areas of instability.
- Methodology for utilising the flood plain as a golf course.
- Possible acid sulphate soils.
- Lack of significant vegetation on the golf course site due to historic farming practices.
- Limitations on buildings related to slope.
- Limitations on building in some vegetation zones.
- Delineation of vegetation species such as camphor laurel and pine for sensitive clearing.
- Positioning of roads relative to gradient and minimising cut.
- Bushfire exposure.

6.2 Site Opportunities

By relating the issues of site constraints to the project brief, opportunities for development arise as follows:-

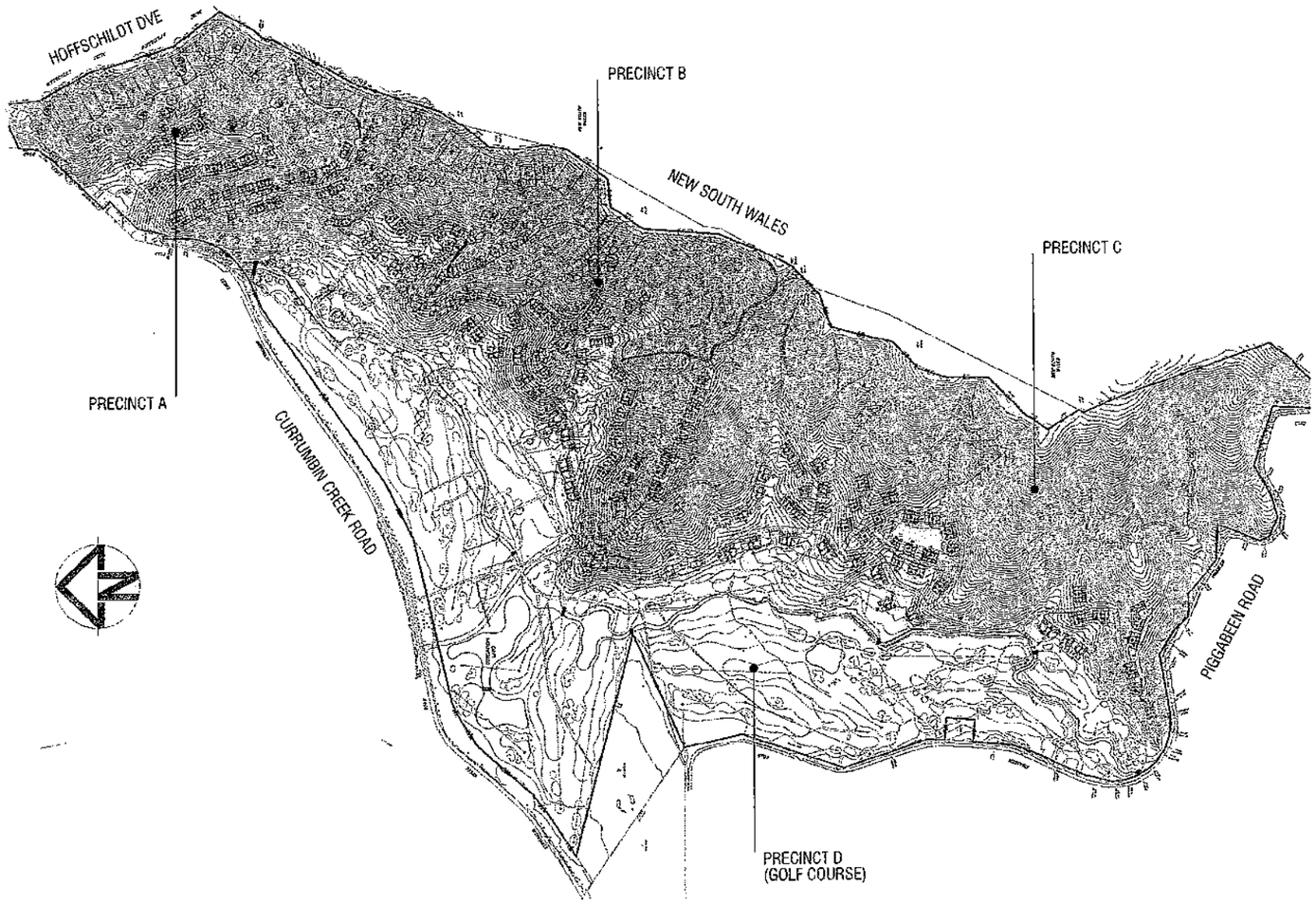
- Create the golf course on land unsuitable for built development.
- Provide good variety in the orientation of golf holes.
- Provide a golf course in proximity to significant urban population.
- Provide strong definition between golf course and housing with existing vegetation.
- Provide community benefits by way of the golf club, hotel and resort style accommodation.
- Create diversity of building/housing opportunities in response to the variety of locations.
- Establish precinct characters.
- Develop and rehabilitate water bodies as part of environmental enhancement.
- Create linkages to existing and new vegetation domains.
- Establish pedestrian linkages accessing communal facilities.
- Economise on road construction by maximizing integration of road and building elements.
- Develop a landscape language to reflect the varied local environments within the overall concept.
- Harness the diverse site geography to achieve sustainable design of infrastructure and buildings.

6.3 Development Potential

By consolidating the "Hulbert Plan" through the evolution of the advanced concept plan, both in response to the approval conditions and relative site characteristics, it is possible to identify how a distribution of building sites can be compared. Also how these can be identified under general precinct categories, and how they integrate in terms of type, mix, location and possible staging.

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DEVELOPMENT PRECINCTS

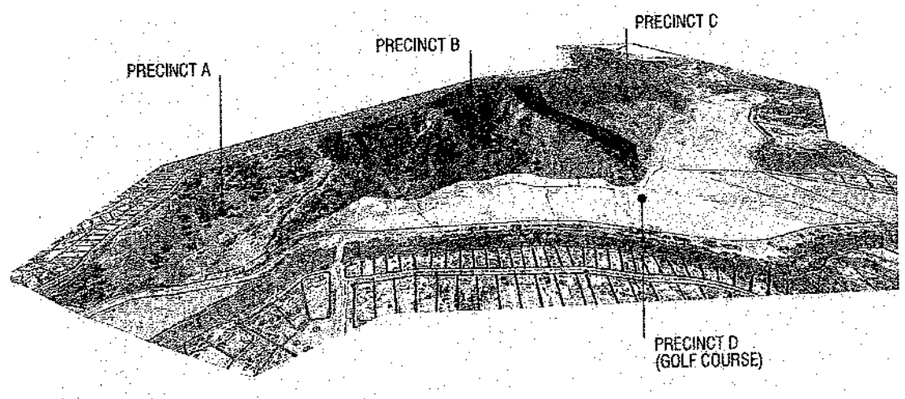
6.4 Identification

By using the natural geographic features previously described as references, the site can be divided into 4 general development precincts. It should be noted that this precinct identification is specific to this report and is distinct from the precincts 1 and 301 to 308 inclusive as defined on the proposed precinct plan No. 7091-02 (PMM Group).

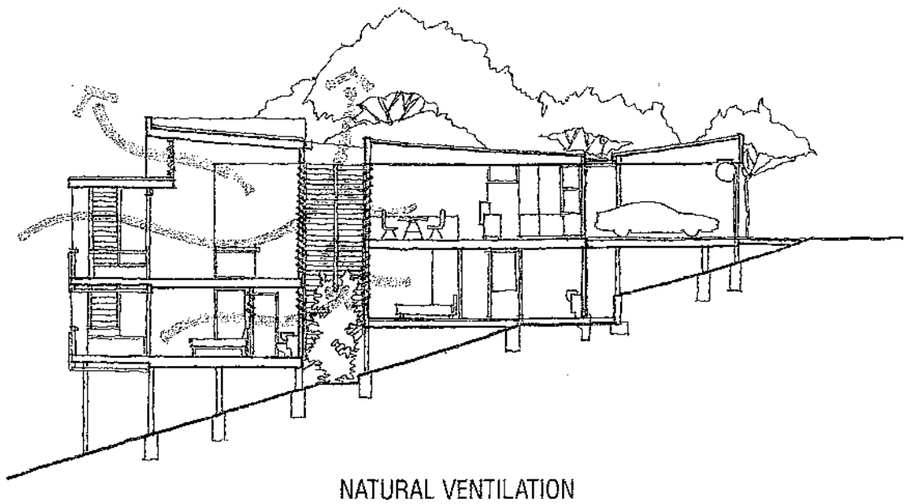
The four precincts are as follows:-

- Precinct A – the northern valley
- Precinct B – the centre valley
- Precinct C – the southern valley
- Precinct D – the golf course

Each of the precincts contains a variety of housing development located in clusters and arranged in neighbourhoods in response to the site.



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NATURAL VENTILATION

7 0 PRECINCT PLANNING AND DESIGN CONCEPTS

7 1 Physical Planning Goals and General Development Criteria

The following basic principles will apply as criteria for development:-

- Locate buildings on appropriate grades and in geologically appropriate areas.
- Orient where possible to the best aspects for energy conservation, breeze capture and view opportunities.
- Integrate water conservation strategies with building and landscaping.
- Preserve and enhance natural landscaping strategies.

7 2 Guideline Principles

7 2 1 Building Form and Integration with Landscape/Character and Image

The architectural form, materials and colour will be selected to unify building categories and landscaping within each precinct.

7 2.2 Environmental Response

Environmental considerations will emphasize the following:-

- Minimal ground disturbance.
- Erosion prevention.
- Vegetation protection.
- Water conservation and management.
- Energy conservation and management.
- Solar energy.
- Bushfire management.
- Wildlife corridor retention and expansion.

Ground Disturbance:-

With reference to the Coffey geotechnical report mostly all development will be suspended floors on columns or piers to produce point of contact with sloping land. In buildings where car parks are located below the building, the degree of cut will strictly adhere to safe engineering practices.

Existing Vegetation:-

Development in areas of existing vegetation will be limited to two categories:-

- Non indigenous or introduced species. In these areas, sensitive clearing will remove trees and thin as necessary for construction, safety or fire hazard reasons.
- Indigenous species. In these areas not identified as of high importance (from the ecological assessment) and are acceptable for development, care will be required to select final road and building locations that result in minimal disturbance. All significant specimens will be identified and preserved as far as possible.

Water Management:-

Fresh water management will need to be integrated with water recycling policies and irrigation needs for landscaping. These will include relevant water harvesting strategies such as rainwater tanks and grey water recycling. This will also apply during the construction phase.

Wildlife Corridors:-

The ecological assessment identifies rainforest gullies in development precinct C which are rich in wildlife and function as effective fauna corridors. These will be preserved in isolation with consideration for expanding further corridors where possible and dependent on species acceptance and their needs for protection.

7 2 3 Precincts

The development precincts will identify manageable areas in terms of access, service and lifestyle. Sub precincts or clusters, will further emphasize the scale, character and interaction of neighbourhoods.

7 2 4 Flexibility

The principle of downhill access into dwellings will provide consistency of road design and architectural configuration. This principle will provide flexibility for the variation of housing placement. As design and market analysis progress, appropriate and required modifications or changes to the mix of building types will be able to be facilitated with relative ease.

7 2 5 External Connections

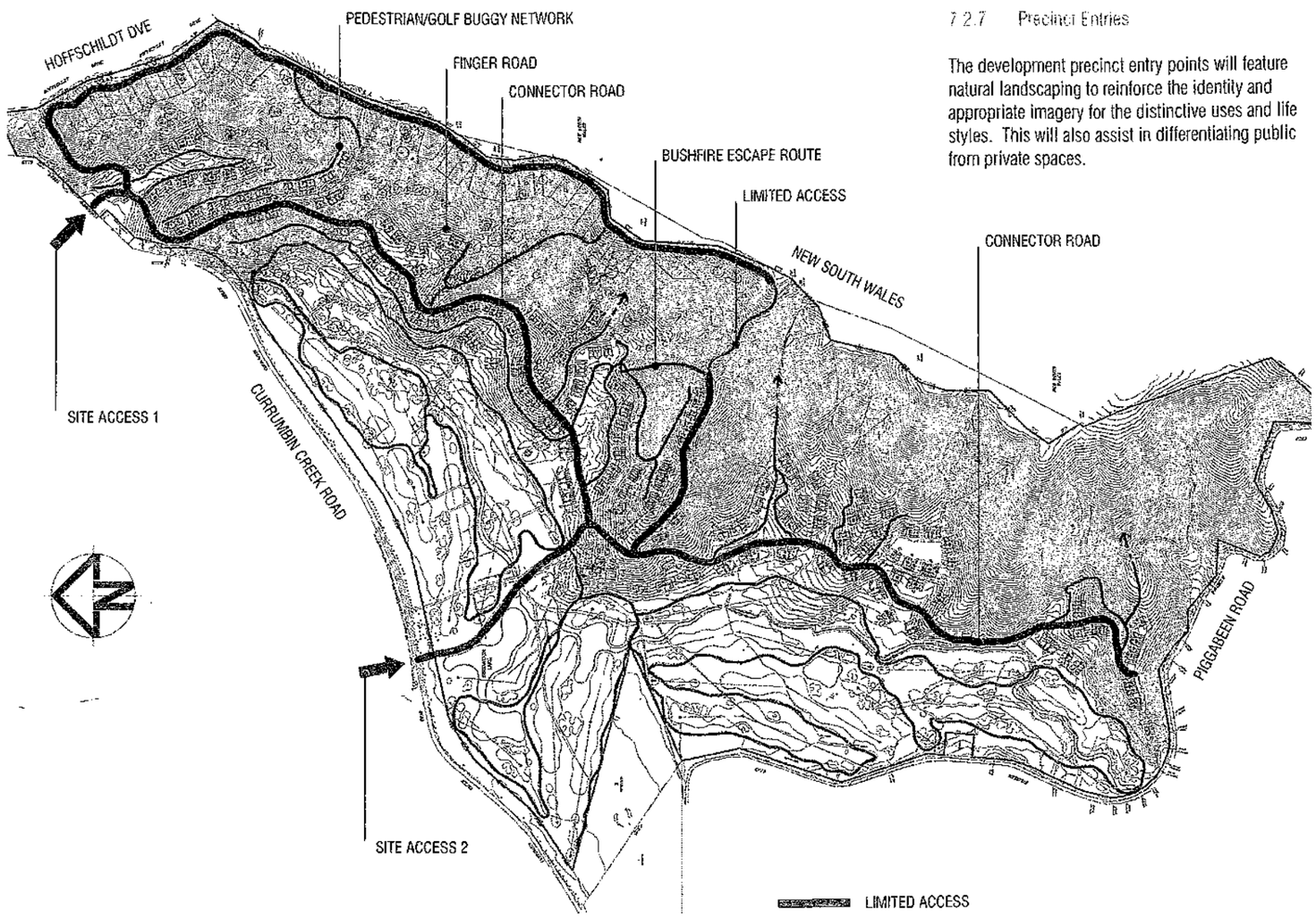
Public access to the resort style facilities and golf course will be directly accessible from Currumbin Creek Road and separated from internal residential traffic.

Access to the existing public walking trail along the eastern border ridge will be provided.

7 2 6 Views and Orientations

Orientation will take advantage of all view opportunities such as the ocean, mountains and coastal ridges, golf course, secluded internal water bodies and forest. Northern orientation to maximize passive energy conservation will be a priority, however it will be balanced against view opportunities and topographic considerations.

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7.2.7 Precinct Entries

The development precinct entry points will feature natural landscaping to reinforce the identity and appropriate imagery for the distinctive uses and life styles. This will also assist in differentiating public from private spaces.

7.2.8 Roads and Carparking

The road system within the property will be a private body corporate system of high quality engineering and aesthetic treatment. Due to the high visible exposure of the site particularly from Currumbin Creek Road, the location, direction and shape of roads will be an important visual element in the planning of the development.

For these reasons the design will acknowledge the following criteria:-

- Avoid long lengths of straight pavement particularly up the ridges.
- Maintain "country road" character in verge treatment.
- Be as narrow as possible for the traffic population.
- Avoid excessive cut and fill on slopes.
- Recognize and facilitate overland water flow.
- Integrate walkways to maintain pedestrian circulation.
- Share retaining walls on downhill slopes with dwelling entries where feasible.
- Feature aesthetic handling of structural design.
- Connect all development precincts with recreational facilities.
- Restrict through traffic to a minimum, by layout and road design.
- Create contained neighbourhoods.
- Facilitate bushfire management by utilizing existing formed tracks and creating new ones to facilitate access by equipment as well as emergency escape routes for residents.

Visitor parking will be integrated with dwelling design to limit parking on roadways. The condominium basement parking will be accessed by sensitively designed driveways.

Parking for the hotel facilities will be under the building whilst the golf club will have surface parking for cars and covered parking for buggies. The surface parking will need to be configured so as to minimise the visibility of large asphalt areas.

Generally the roads will present as "country lanes" due to their width, edge treatment and low speed limit.

7.2.9 Pedestrian Circulation

Pedestrian pathways will access the downhill side of units where road gradients are in excess of that suitable for pedestrian use.

Some pathways will accommodate buggies, particularly where golfing access is required either on the course or providing access to it.

Minor pedestrian links will connect neighbourhoods as part of the landscaping network.

7.2.10 Service Access

Residential areas will be provided with adequate provision for all essential services. These services will include access for moving vans and fire units. Refuse collection will be an internal service handled by smaller vehicles utilizing a central holding point for later removal by council vehicles. These holding points will be carefully selected and discreetly designed in such a way that their intrusion will not impact on the residential ambience.

7.2.11 Hierarchy of Open Space

Within all the development precincts, a distinctive hierarchy of open space use will be established. This will be structured to identify the multiple uses and values that will be relevant.

The public open spaces will incorporate active space such as the golf course and other recreational activities including walking tracks. The passive areas will include the dedicated environmental linkages, water bodies and sensitive animal habitats.

- Private Open Space:-

Private open spaces are related more specifically to the dwelling occupier and whilst a part of the wider context of open space, they provide immediate visual amenity of a low maintenance nature.

- Recreational Open Space Linkages – Passive/Active:-

The passive open spaces such as bushland would be linked via bushwalking tracks and pathways to the more active spaces, such as community facilities, waterways, B.B.Q shelters and the golf course.

These linkages would incorporate and rely on the landscaping and amenity of private open spaces to provide continuity of movement and visual character.

- Vegetation Linkages:-

The protected areas of bushland generally occupy the higher ground and these passive areas are linked to the creek in the floodplain by numerous creeks and gullies.

These will be utilized to reinforce the vegetation linkages across the site through rehabilitated creek environments incorporating weirs, paths and dry creek beds, water bodies and planting.

Ongoing maintenance of these areas will be required.

- Streetscapes:-

Detailed landscape treatment of streetscapes will be concentrated around buildings to provide screening by shrubs and shade trees, dedicated hard paving, driveways and parking areas.

In areas of less intense development, the treatment will focus on banks and retaining walls to roads. Supplementary roadside planting will address issues such as precinct character, view management and erosion prevention.

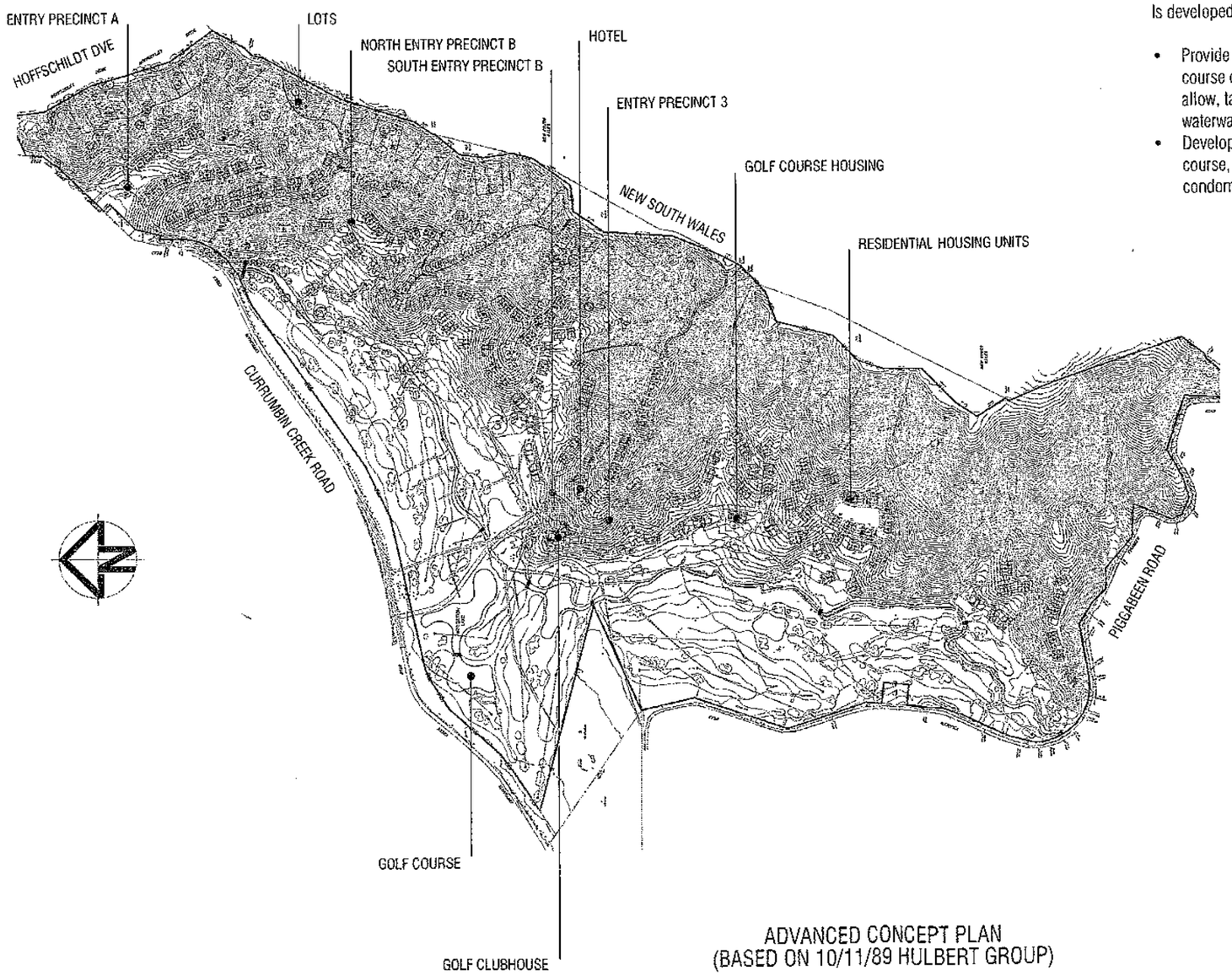
- Entrances:-

The two formal entrances to the site will be from Currumbin Creek Road. These will be in character with a rural ambience, being understated and simple in form. The arrival points at the entrance to the precincts will also be showcased to clearly identify the neighbourhoods and would be of a natural landscape character utilizing water and endemic species to reinforce the country lifestyle.

7.2.12 Residential and Personal Security

One of the principles of "the new urbanism" is the return of neighbourhoods and streets to the stewardship of the community. In this context, security is best maintained at the level of resident vigilance through proximity, public space accessibility, shared use of facilities and community action programs such as neighbourhood watch.

The design of buildings and their connecting links such as well lit paths with natural surveillance will all potentially contribute to resident security.



ADVANCED CONCEPT PLAN
(BASED ON 10/11/89 HULBERT GROUP)

7.3 The Concept Plan

Is developed to:-

- Provide a golf club facility and an 18 hole golf course designed as efficiently as the site will allow, taking into consideration the floodplain, waterways and site levels.
- Develop a range of housing abutting the golf course, namely 5 plex units, golf villas and condominiums.
- Distribute across the site, a range of housing clusters comprising combinations of 2, 3, 4 or 5 units to any one self contained building and larger condominiums to the slopes overlooking the golf course and adjacent valleys.
- Design a range of individual residential lots along the northern boundary and the eastern border ridge line.
- Locate a hotel adjacent and uphill of the club-house.

The total site yield proposed for the accommodation product is as follows:-

- Units – 520
- Hotel – 96 rooms
- Residential Lots – 34

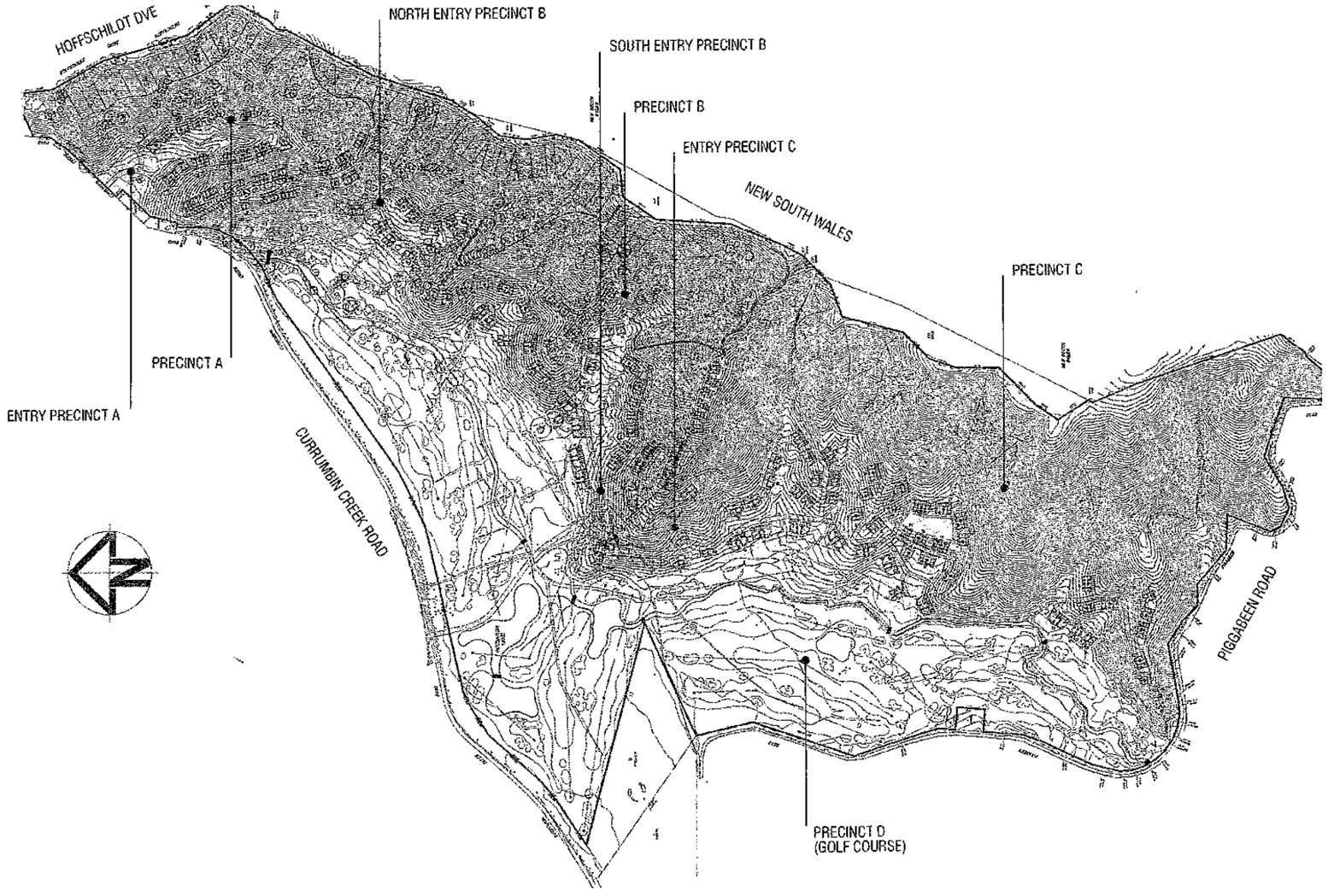
The mix per development precinct is:-

Precinct A
(Includes precincts 303 & 304 on PMM Plan):-
- Units – 87
- Lots – 19

Precinct B
(Includes precincts 301, 302, 305, part 306 & 308 on PMM Plan):-
- Units – 149
- Lots – 15
- Keys – 96

Precinct C
(Includes precincts 306, 307 & PARK on PMM Plan):-
- Units – 284

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DEVELOPMENT PRECINCTS

8.0 STRATEGIC PRECINCT PLANNING

8.1 Precinct Planning Framework

The 3 residential precincts (A, B and C) each have an individual physical and environmental context. However, certain underlying design principles apply to their organization and help create a framework for their implementation.

8.2 Precinct Form

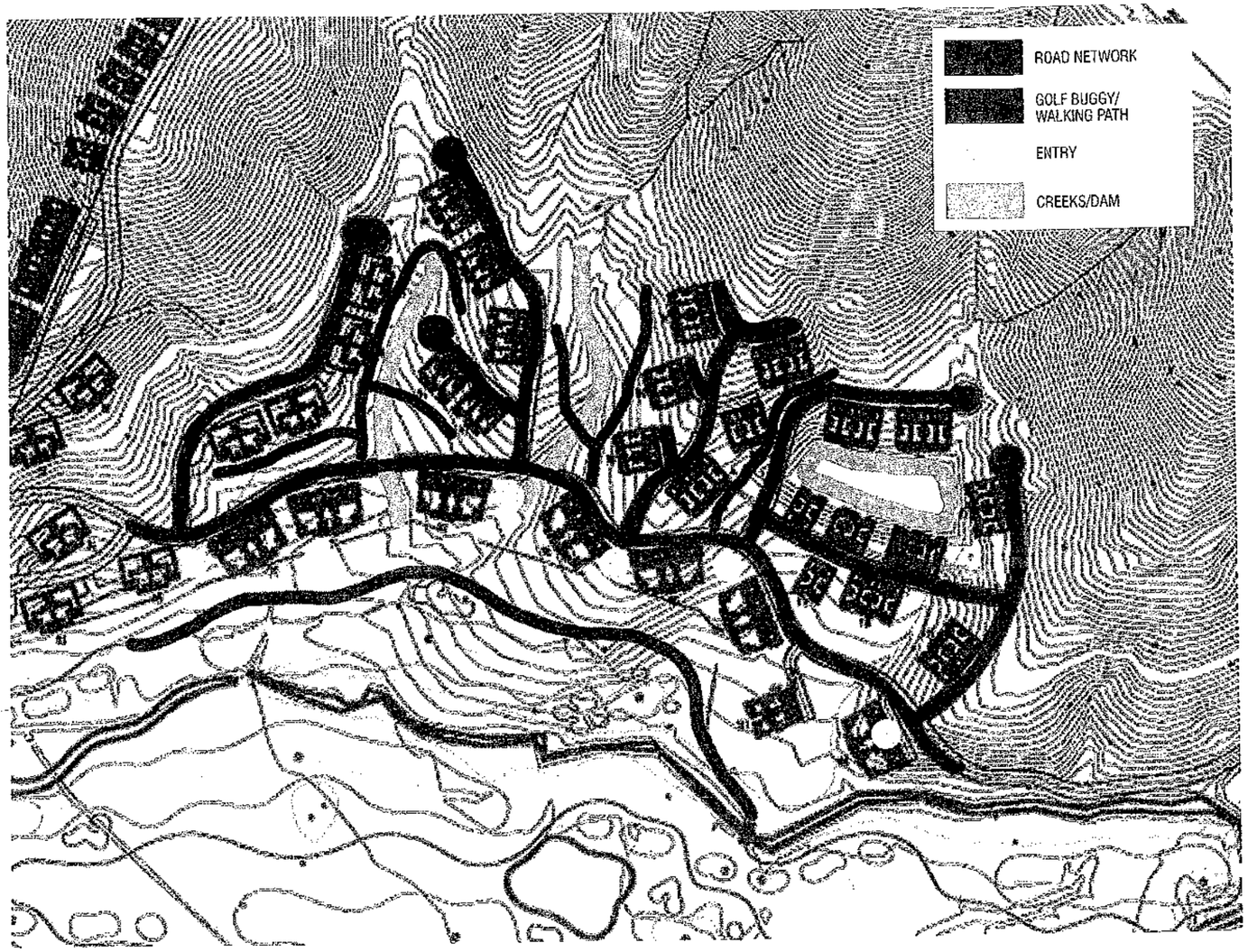
The form of each development precinct will be defined as a result of the particular architecture combined with the road pattern, terrain and placement of buildings.

8.3 Precinct Entries

The entry to precinct A will be integrated with the landscaped creek feature just inside the Currumbin Creek Road entry.

The northern entry to precinct B will be on the south side of the pine ridge, and the southern entry will be opposite the golf clubhouse. The landscape treatment to this area will utilize water features and other landscape elements.

The entry to precinct C, just beyond the hotel entry is on the edge of the eucalyptus forests and will reflect the forest and golfing theme of the precinct.



1

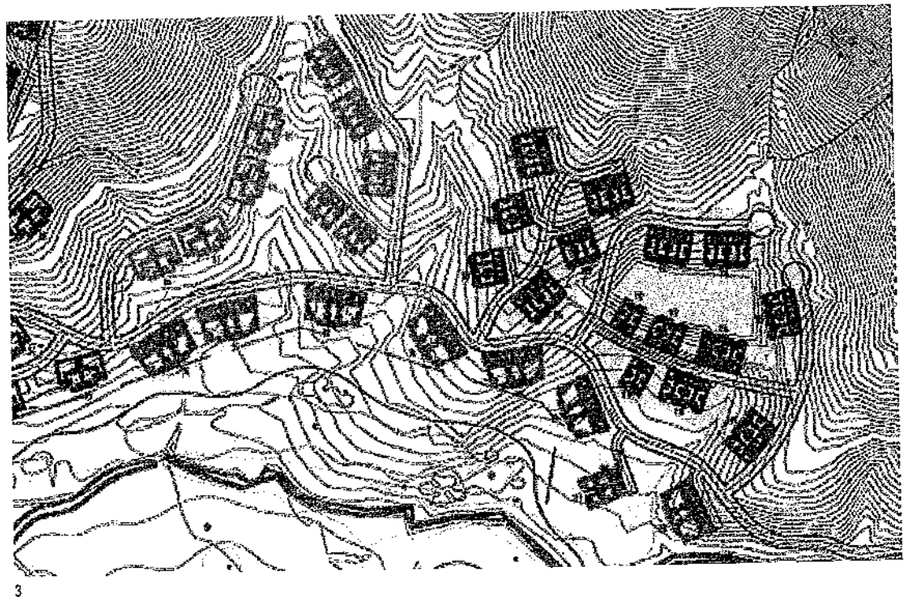


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8.4 Circulation Network

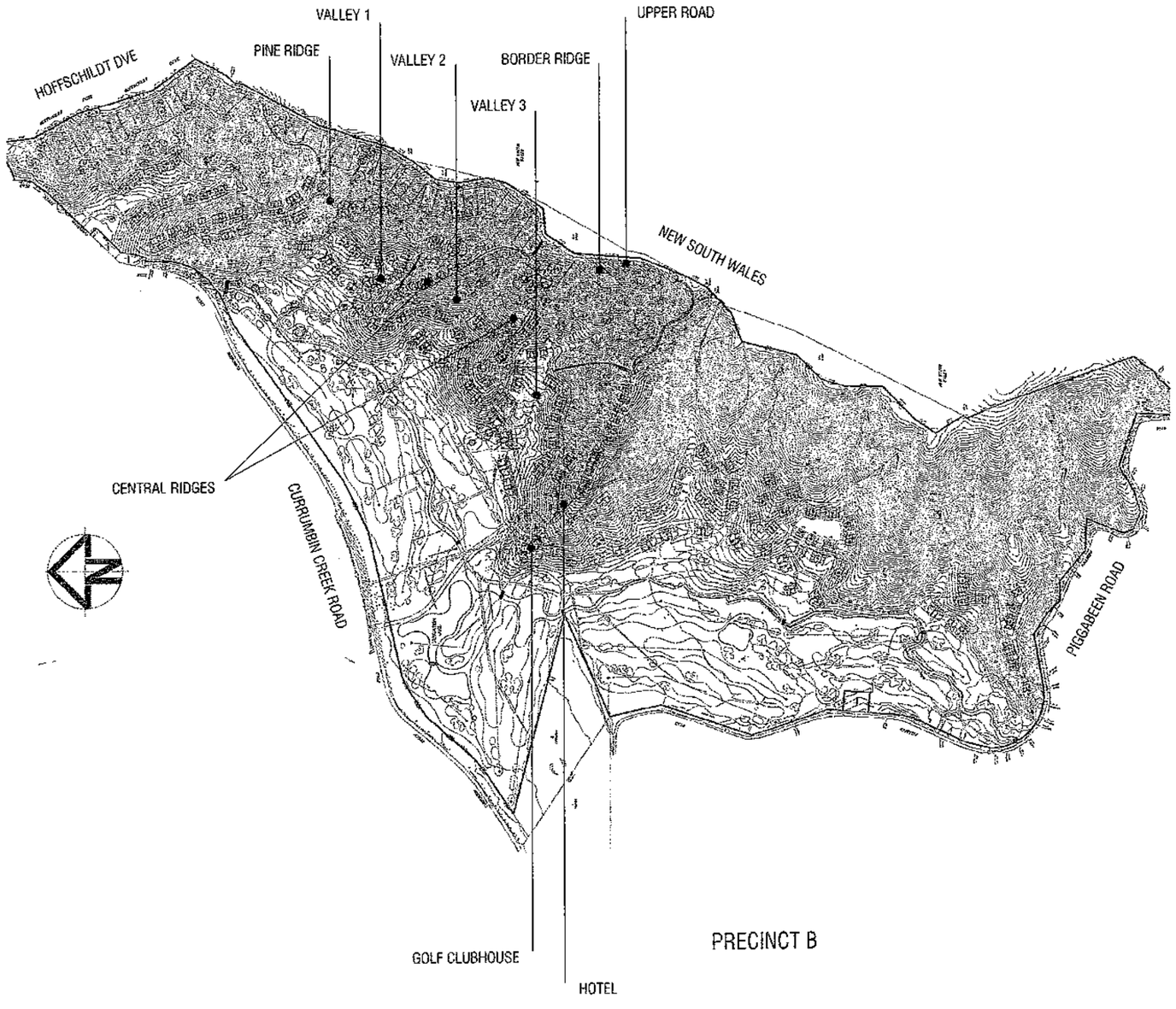
The road system provides the basic network with principal roads and finger roads or neighbourhood courts and crescents. In some cases these become little more than driveways where the width can be minimized.

Augmenting the roads and driveways, are pathways/cycleways/buggy paths and walking trails, designed to provide opportunities for pedestrian circulation.



3

1 circulation network within clusters
2 neighbourhood
3 neighbourhood clusters



8 5 2 Precinct B

The north boundary of Precinct B is the shared pine ridge with Precinct A. The southern boundary is the ridge shared with Precinct C. The east is the border ridge and the west is the golf course.

There are two smaller central ridges in the centre of the precinct creating in effect three valleys.

The upper road along the border ridge, services the individual residential lots.

A series of finger roads feed both uphill and down to the golf course in a cul de sac or hammer head configuration. West of the lower road (or the downhill slope) a combination of golf villas and 5 plex units are located to avoid gullies and overland flow paths and retain existing stands of trees.

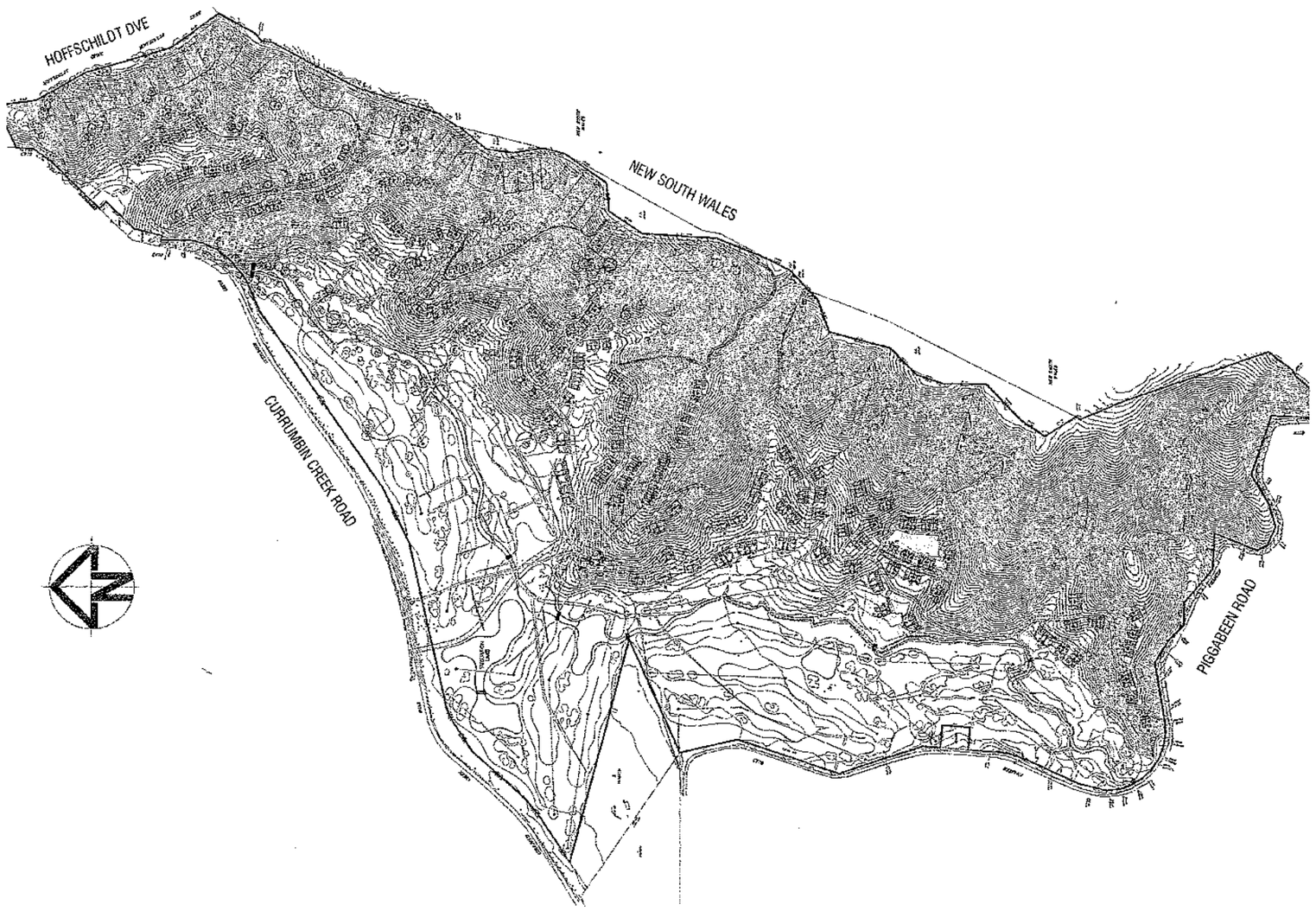
The units located on the fingers are likewise located to minimize disturbance to vegetation and capitalize on view opportunities.

The existing eucalyptus trees on the northern of the two central ridges in this precinct will be retained and will result in creating a visually isolated cluster of units and golf villas. All these have golf course views. The southern of the two central ridges has sparse tree growth with remnant orchid trees, wattle and African tulip. Regardless, road layouts have avoided trees wherever possible. Units, golf villas and 5 plex units have been arranged for middle distance golf and foreground valley views. The most southern valley (3) in this precinct contains a substantial creek formation with constructed dams. These will be reconfigured and integrated into a formed creek/water body feature surrounded by units. and supplementary planting as few trees exist in this area.

The hotel is situated on the lower north facing slope of the ridge between Precinct B and C. It is orientated north with golf course views and is visually set against the backdrop of the tall eucalyptus open forest to the south. The hotel central facilities are set into the slope with parking below. The suites, also facing north will enjoy middle distant golf course views. Their foreground view is the immediate valley (3) and creek described above.

The golf club, located at the foot of the ridge between Precincts B and C, commands visual prominence from the entry driveway and from a substantial number of units in Precinct B. The clubhouse enjoys sweeping visual panoramas over most of the golf course. It is the focal point for the community recreational facilities providing normal club facilities as well as outdoor recreational facilities. It has close physical access to condominiums adding to its potential to provide resort benefits.

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PRECINCT C

8 5 3 Precinct C

This precinct will offer golf course living, hillside views, forest proximity with nearby rainforest gullies and a secluded hill top neighbourhood.

The forest in this precinct creates a sense of privacy, isolation and strong community relationships due to the topography and vegetation. The northern fingers contain condominiums and units skirting a creek, while the central area consists of a ridge line with driveway branches off each side. Another neighbourhood is located around a creek and existing dam, with a backdrop of large eucalyptus stands.

The most southern neighbourhood on the ridge is positioned within the forest. The area has camphor laurel infestation which will be cleared. The extent of development will be constrained generally by the perimeter of the eucalyptus forests.

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PRECINCT D (GOLF COURSE)

8.5.4 Precinct D (Golf Course)

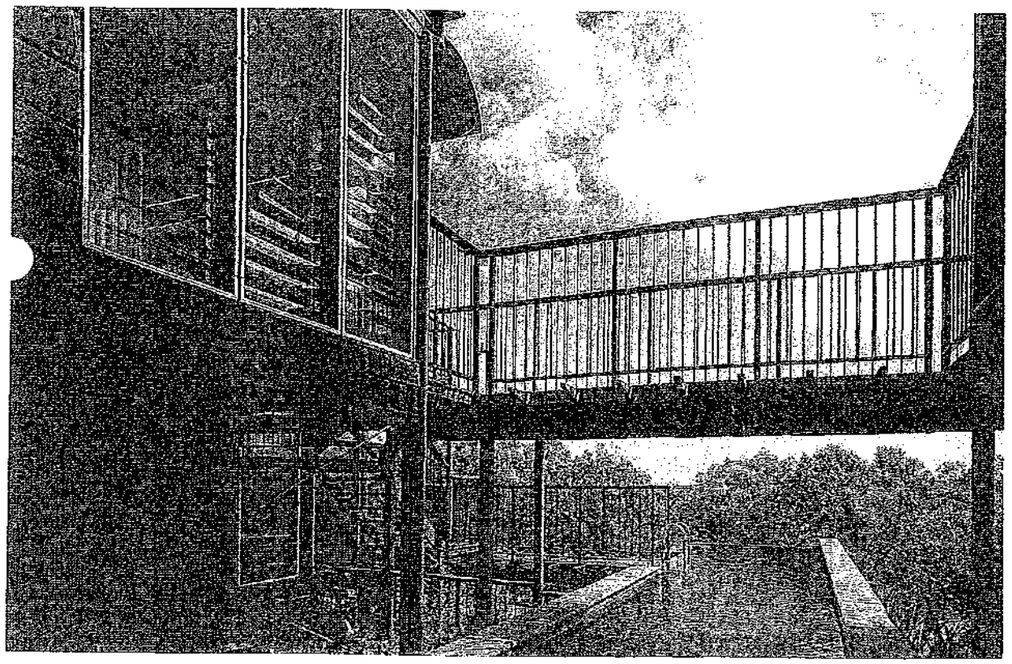
The land set aside for the golf course is relatively flat, being located in the Currumbin Creek floodplain. The site is traversed by a series of drains that have been constructed as part of the original farm operations.

A detailed vegetation study has been undertaken for the site. For the golf course, however, there are three main vegetative features of the site. The first is the remnant vegetation alongside the creeks. In some areas alongside the creek, particularly in the upstream sections, Camphor Laurels have established themselves as the dominant vegetation. These will be removed as part of the golf course. The second feature of the site is the row of Pine trees contained in the road reserve along Currumbin Creek Road. These form a very strong edge to the golf course site. Thirdly, the existing vegetation found on the southern hillsides. Even though this is all outside the golf course boundary, they still form a very distinct backdrop to the golf course.

The golf course features include:-

- 18 hole, 5 star quality golf course to support the quality of the overall development.
- Golf course to have variety in tees to allow play for professional, members, social and ladies.
- Creation of signature golf holes, incorporating the features of the site.
- Retain as much natural vegetation as possible and to landscape the golf course with plant species indigenous to the area.
- To utilise a selection of grasses that will minimise maintenance and water usage but still provide a playing surface of international standard.

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9.0 DESIGN GUIDELINES

The following guidelines outline the general level of design for the proposed development. Design guidelines include such matters as site position, building heights, massing, selection of materials, site orientation, landscape and other aspects of the three dimensional design. The guidelines are generally "performance based" in nature and are meant to allow maximum flexibility in detailed design while also ensuring that the key principles of the concept plan and precinct plans are accommodated.

It is intended that these design guidelines be used as the parameters for the staged development.

9.1 Site Design and Orientation

One of the most critical elements of the development precinct plans is the site design and orientation of buildings and spaces. As the precincts are developed, it will be important that the site axes, views, gathering spaces, and building locations be respected and accentuated by building and landscape location, orientation, scale and massing.

The visual quality and impact on adjacent land uses, roads and pathways should create a positive identity for the residents of the precincts and visitors to the hotel and golf club.

Orientation for Energy Efficiency:-

The orientation of building is fundamentally predetermined by topographic constraints and road locations. Whilst the preferred orientation is north, some will face south and others will have a less desirable western orientation. Blinds and louvre screens need to be utilized to ameliorate this exposure.

Outdoor Spaces:-

The major outdoor spaces will be a mix of public and accessible to all within the development and the surrounding community. Landscape treatment should be such that these areas become an integral part and a link between existing areas of dedicated parkland. Private external space should in turn be landscaped in a similar natural manner in order that demarcation to open space be indiscernible.

Visual Quality:-

Buildings should be sited in order to both accentuate the natural form and character of the pre-existing landscape and have minimal impact on the visual amenity of that landscape. Building should be 'staggered' or angled in order to avoid continuous straight line wall effects.

9.2 Design for the Sub-Tropics

9.2.1 Introduction

The design of buildings should incorporate and integrate the following principles:-

- Orientation for summer breezes.
- Allowance for cross ventilation.
- Shading of windows against solar radiation.
- Shelter of openings for storm protection.

9.2.2 Guidelines for Residential Design Sub-Tropics

Landscape Design:-

The principles for the intent of landscape design are set out in a separate 'Landscape Intent' document.

9.3 Patterns of Design

9.3.1 Residential Accommodation

Generically, successful housing can be measured by its ability to efficiently respond to demands of providing for:-

- Access.
- Support Servicing.
- Shelter and Physical Comfort.
- Space for Human Activity.
- A Hierarchy of Privacy.
- Storage of Belongings.
- Adaptability.
- Social Contact.
- Environmental Association.
- Economic Determination.

Housing should provide:-

- Adequate carparking for occupants and visitors.
- Promote passive natural ventilation.
- Utilize energy and water efficiency measures.

The brief prepared in association with the developer determined that each dwelling should generally have:-

- Covered Car Parking (2 Cars).
- Significant Storage Area.
- Promote passive natural ventilation (non air-conditioned) cooling.

Unit Dwellings should:-

- Maintain and promote identity of each building.
- Aggregate to define particular sub-precinct (dwelling cluster) identities.
- Respect acoustic and visual privacy of:-
  - Private indoor (retreat) zones.
  - Private outdoor zones.
- Aggregate to define and support communal external spaces.
- Embrace existing mature trees (instant character).
- Promote low water usage.
- Accommodate servicing logic.
- Accommodate removalist, refuse collection movements.

Housing design and the location of different types should be strictly determined through response to the specific landform at each location.

The hotel and accommodation should incorporate:-

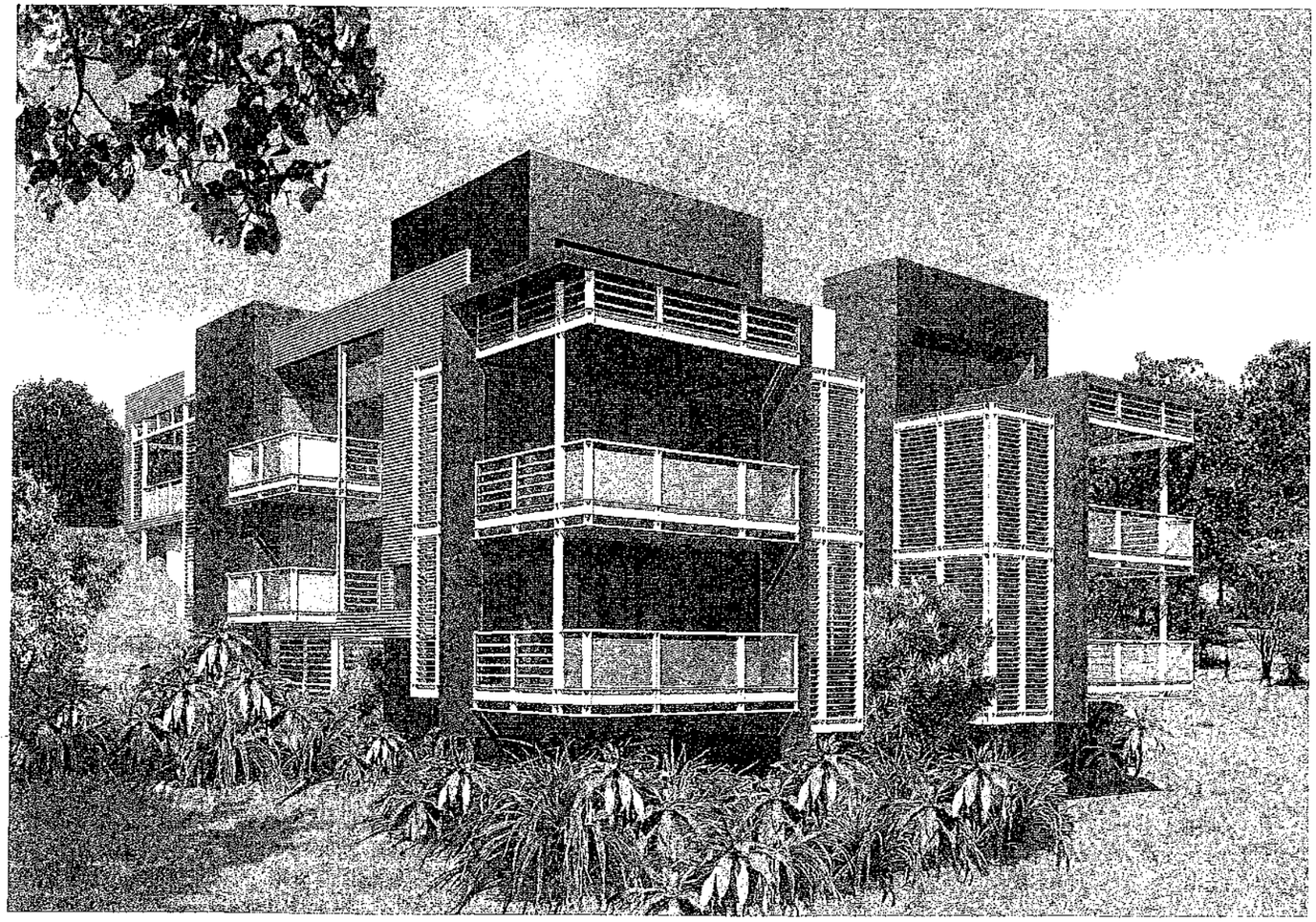
- Respect for acoustic and visual privacy.
- Private external (balconies) zones.
- Promote low water and energy consumption.
- Accommodate servicing logic.
- Facilitate safe and direct refuse and parking entry exit movement.
- Reduce solar heat loads on walls in summer.
- Utilize solar collection for energy supplementation.
- Maximise grey water recycling.
- Utilize rainwater to augment demand.
- Maximise natural lighting to interiors.

The Golf Club should similarly utilize these available initiatives.

9.3.2 Patterns of Regional Architectural Expression

Residential architectural expression for the project has the opportunity to respond to and further two strands of local/regional history: the regional sub-tropical Queensland tradition and the more contemporary Gold Coast expression. Together with landscaping and the site's natural connections, a vocabulary drawn from both can assist in engendering a Currumbin Valley Sense of Place. Patterns identified for inclusion in the architectural vocabulary might include:-

- Simple building volumes.
- Stumped construction (high and low).
- Prefabricated steel (portal) frames.
- Heavy timber slat screens to undercroft.
- Uncovered stairs.
- Timber stumps/posts.
- Screened (patterned) verandahs.
- Simple roof forms.
- Projected awnings on verandahs.
- Sunhoods – individual type.
- Simple balustrading.
- Single skin construction.
- Timber as a primary wall cladding (weatherboard) patterning material.
- Limited steel cladding.
- Limited masonry.
- Corrugated iron roofing.
- Roof ventilators.
- Metal gutters, round downpipes.
- Fascia boards, barge boards.
- Batten Eaves linings.
- Polished timber floors.
- Fretwork divisions/entry/verandah elements.
- Glazed/timber louvred doors.
- Timber/glass/metal louvres (often to full wall lengths).
- Casement windows (including in verandah patternings).
- Coloured/textured glass.
- Paint/colour used extensively.
- Ceiling fans.
- Outdoor (covered, part walled/undercroft) laundries.
- Little external (terrace) paving.
- Garaging/shedding – relatively enclosed.
- Minimal concrete to driveways.
- Simple, direct (often exposed) servicing.



9 4 Architectural Guidelines

9 4 1 Context and Objectives

It is also considered important in the development of Currumbin Valley that the architecture expresses its important role within the broader community as a place of excellence in a manner which complements the diverse contemporary character of the Gold Coast and Queensland sub-tropics. This may be achieved by the careful design and implementation of architectural expression and character that differentiates its self from the pedestrian architecture of the area that has been dominated in recent times by imported and inappropriate southern suburban domestic architecture.

9 4 2 Character

Character can be established through a recognised general consistency of building expression, the more successful principles of which it is proposed be employed on the residential buildings include:-

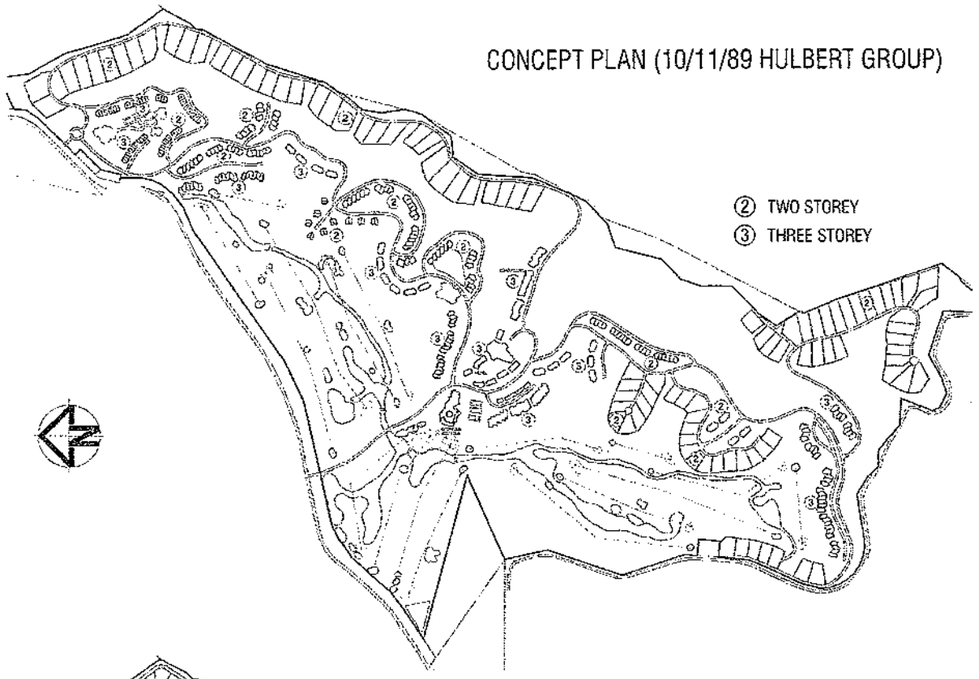
- The use of lightweight steel framing, light coloured cladding and modulated facades responsive to climate and environment.
- A generosity of entry.
- A detailed and expressive treatment of facades, (sometimes in a personalised ad hoc way i.e. to individualise each dwelling), provided on some buildings (eg. Timber screens, gateways).
- A level of individual expression to each building whilst maintaining an overall conformity of vocabulary.
- Deep overhanging roofs, and sun shading and weather protection to windows, entries and stairs.
- A variety of building forms generally low rise up to three levels maximum.
- Sporadic shade and shelter to accompany pedestrian movement.
- North-south orientation of buildings to optimise energy efficiency.

The Hotel and Golf Club buildings, being public and of a resort nature, should maintain a respectful scale in harmony with the residential environment and yet establish an identity that clearly states its function as a recreational destination.

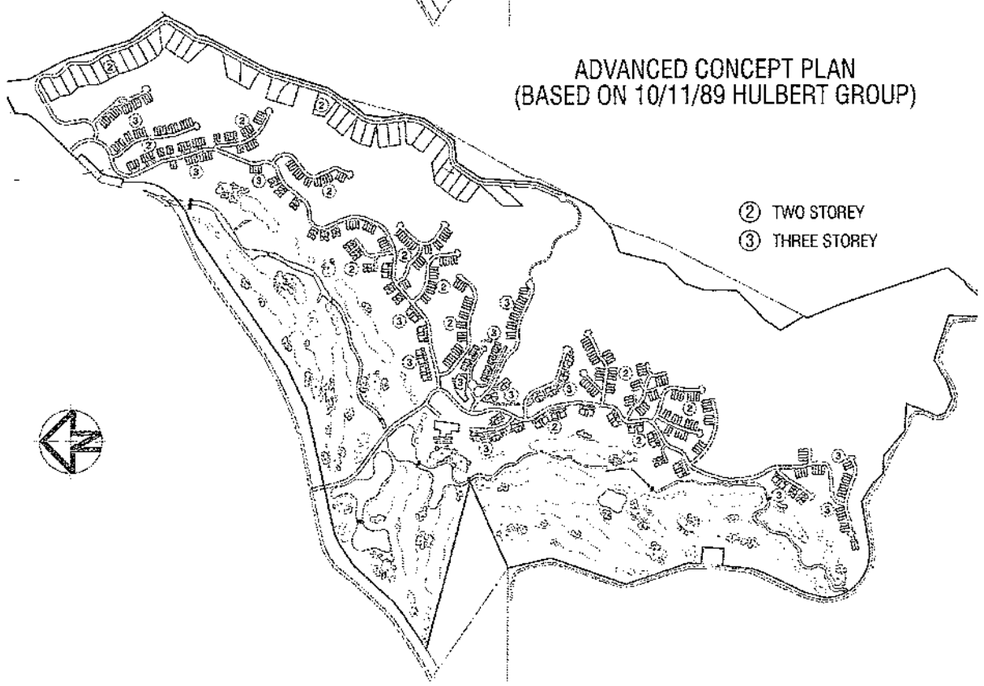
This can be established by:-

- Providing a distinctive arrival point and accessible parking.
- Informal entry.
- Simple planning incorporating promotion of views and topography and accommodating disabled patrons.
- Protection of large glass areas, especially west facing.
- Minimising cutting into slopes.
- Large simple roofs and overhangs.
- Careful balance of masonry and lightweight structures.
- Promotion of verandahs.
- Pedestrian linkages to adjacent precincts to facilitate integration.
- Generally, colours and materials that promote a sense of recreation and natural environment.
- Natural ventilation.
- Solar collectors integrated into the design.

CONCEPT PLAN (10/11/89 HULBERT GROUP)



ADVANCED CONCEPT PLAN
(BASED ON 10/11/89 HULBERT GROUP)



9.4.3 Guidelines

Site:-

Precinct Plans accompanying this document indicate where buildings are generally envisaged and where buildings are generally not envisaged for each precinct. Housing design objectives include:-

- Develop a variety of expression in the residential dwellings.
- Creation of significant areas of separation between residential dwellings.
- Creation of a light weight sub tropical building type having a 'Queensland Style'.
- Develop a housing type of minimal width to street frontage.
- Develop a standard flooring configuration which can be altered in appearance and treatment dependant upon orientation.

Building Height:-

A 2 storey height will apply to the development except for the following:-

- Units in the northern valley of Precinct A – 3 storeys.
- Units on the ridge above the hotel of Precinct B – 3 storeys.
- Units on the southern ridge of Precinct C – 3 storeys.
- Units fronting the golf course – 2 to 3 storeys.
- Condominiums – 3 storeys.
- Hotel – 3 storeys.

External Walls:-

The colour and materials for external walls are intended to be site responsive, such as buff coloured zincalume, grey colours for external concrete or concrete masonry, subdued colours for timber, metal cladding, and rendered FC plus additional considered use of natural rocks and timber to enrich detail.

It is recommended that consideration be given to relief detailing of external walls with the avoidance of long flat facades and that external walls be modulated in form and detail including the consideration of the vertical scale appropriate to the external spaces adjacent.

External walls and forms integrated with landscape design should also contribute to the definition of the open space structure of the precincts through the sense of spatial containment provided by the facades and the quality of these to the interior and from the exterior of the buildings particularly in areas of major pedestrian circulation.

Roofs:-

It is envisaged that the buildings will generally have broad overhangs, however there is a preference for a rich and varied roofscape throughout the precincts which in particular evokes a response to the tropical climate of the region. The desire for individual identities within an overall precinct character of low rise buildings intimates an encouragement for varied roof forms, for example incorporating not only pitched roofs but also combined with vaulted or almost flat roofs, such an approach would allow for well shaded southern skylights of clerestories allowing the penetration of natural light and ventilation where possible.

Flat metal roofs and parapet or box gutters are discouraged and where flues, stacks, exhaust fans or the like penetrate the roofs, these should be preferably grouped in an orderly manner.

Roofs generally are intended to be zincalume off-white, buff, grey metal or similar, however, where glare may be a problem an alterntative could be considered. Buildings should be designed to avoid glare from other buildings and to avoid the creation of glare to other buildings.

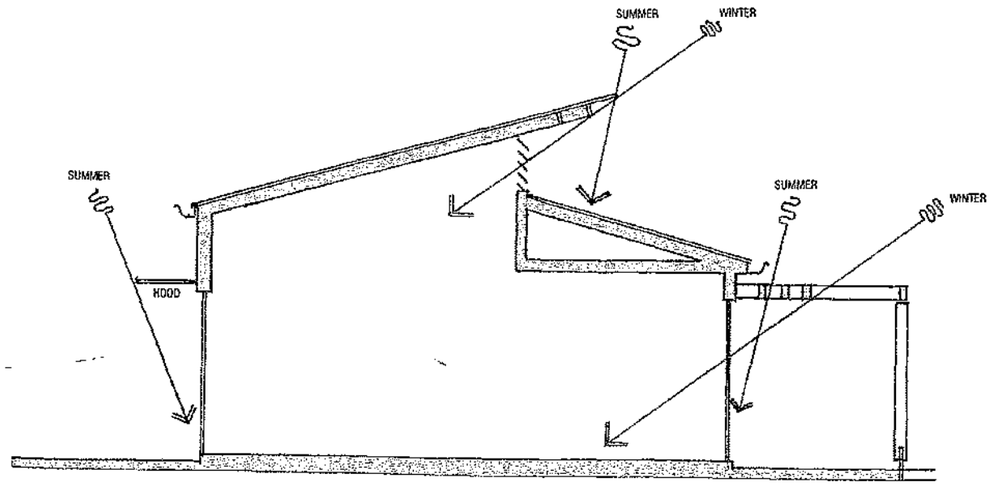
Windows:-

External fenestration to the buildings should be designed in consideration of privacy between dwellings. Generally sill heights can be as low to the floor as possible, but respect standard desk/table height to enable maximum penetration of natural light to interiors of the buildings.

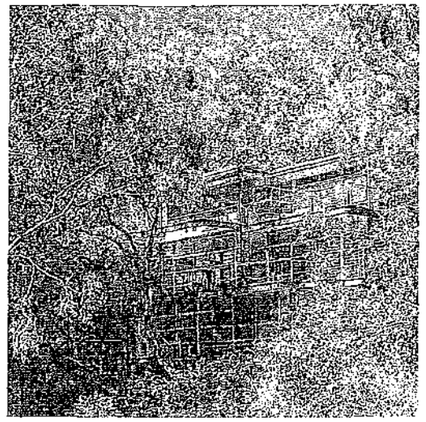
Windows should have anodised or powdercoated finishes, charcoal/black/grey or clear or combination of these colours. Windows on the western and eastern facades should be provided only in a considered manner with appropriate sun shading.

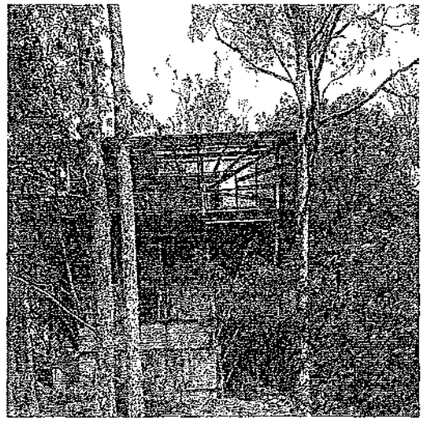
Window systems selection should consider the ability to divert breezes, allow for good cross and thermal ventilation and allow to remain open during rainfall without letting in water.

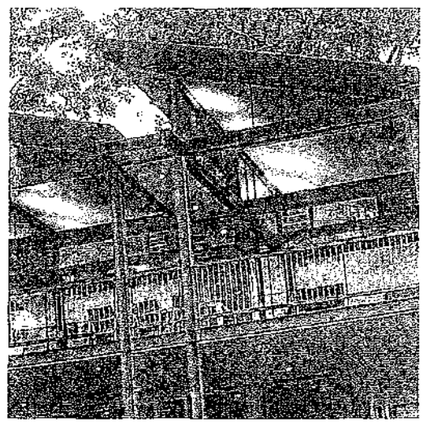
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SOLAR MANAGEMENT







Sun Shading/Weather Protection/Screens:-

Sun shading, screening and weather protection should be provided to all external façade elements including all external windows, doorways, entrances and porches appropriate to the orientation and use.

The design and detailing of all sun shading/weather protection devices, whether by slab projections, overhangs, fins, blades, pre-fabricated hoods, louvre systems or the like should be well considered and detailed and responsive to proper climatic analysis and low building maintenance requirements.

Sun shading and screening should preferably be finely detailed where attached to the building or a projection from the main building form, or a deeply modulated recess where integrated with the building form.

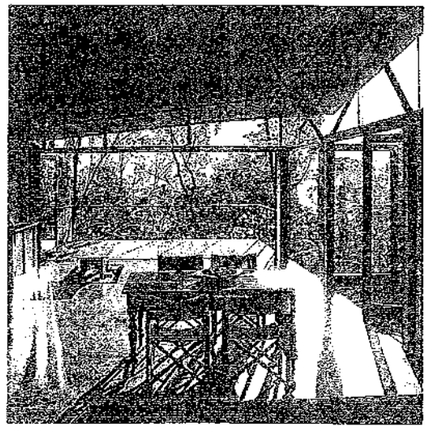
Balustrades and Handrails:-

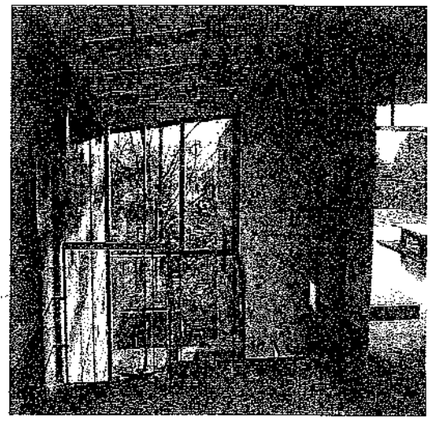
The nature, detail and level of visual screening to balustrades and handrails should be appropriate to the particular use and level of privacy which might be required.

Generally, they should be provided to all external (and internal) balconies, stairs, decks and the like where the level of safety risk assessment requires. More particularly, their design should be coordinated with other architectural elements including screens, sunshades, external seats, glazing and wall finishes.

Balustrades and handrails should preferably be finely but robustly detailed with materials and connection details suitable for prefabrication and responsive to the effects of climate and low maintenance requirements.

Consideration should be given to reconciling preferred views from within the dwelling, and privacy from without, particular to the individual circumstances. It is preferred that unpainted materials be used including anodised aluminium, galvanised steel and stainless steel with a minimum use of timber only.





9.4.4 Design Principles

Building Clusters:-

In creating a sense of community within the larger precincts it is desirable to have clearly identifiable building clusters which enhance a sense of ownership and contributes to pride, self maintenance and security as opposed to a repetitive arrangement without any hierarchy. The typical building clusters should be arranged to form neighbourhoods around existing trees or along natural features such as dams, creeks and ridges.

Entry and "front doors" to all residence should be off the street.

The street then becomes the primary neighbourhood space with a "street life" of comings and goings of cars and people allowing more intimate community activity and interaction both purposeful and incidental.

Conversely the residence should also be provided with a private side to the open space between building clusters.

Unit development should include two and three storey configurations of duplex style villas, triplexes, 4 plex, 5 plex and condominiums of up to 12 units.

Built Form and Materials:-

The buildings should be conceived as previously described arranged in clusters. Each cluster usually would consist of residential blocks with lightweight carports and stores at ground level.

In order to achieve the design intent of variety and articulation in form and material, a number of strategies should be employed:-

- Each cluster to have at least 2 different dwelling types.
- Larger balconies with separate roof structures to be built as "attachments" to the unit blocks after the example of domestic verandahs.
- Wide roof overhangs, which also contribute to a sense of shadiness providing good weather protection.
- A variety of screens, sunhoods, balustrades and lightweight roof forms should be employed.
- Buildings should be grouped irregularly to respond to natural site features.
- Significant landscape spaces should be integrated into the clusters around the buildings.
- Lightweight materials should be used appropriate to the local historical context, climate and to enhance the sense of gentle integration with the landscape.

The buildings should be designed to suit component standardisation, minimum site disturbance and for low maintenance.

Interior Design:-

The interior design should have a particular concern for:-

- Engagement of outside views.
- Comfort in the hot sub-tropic months.
- Flexibility in furniture layouts both indoor and outdoor.
- Robust low maintenance, long life cycle finishes.
- Suitability for prefabrication.
- Protection of acoustic and visual privacy from without and within.
- High quality natural ventilation.
- Ease of replacement/repair.

Privacy:-

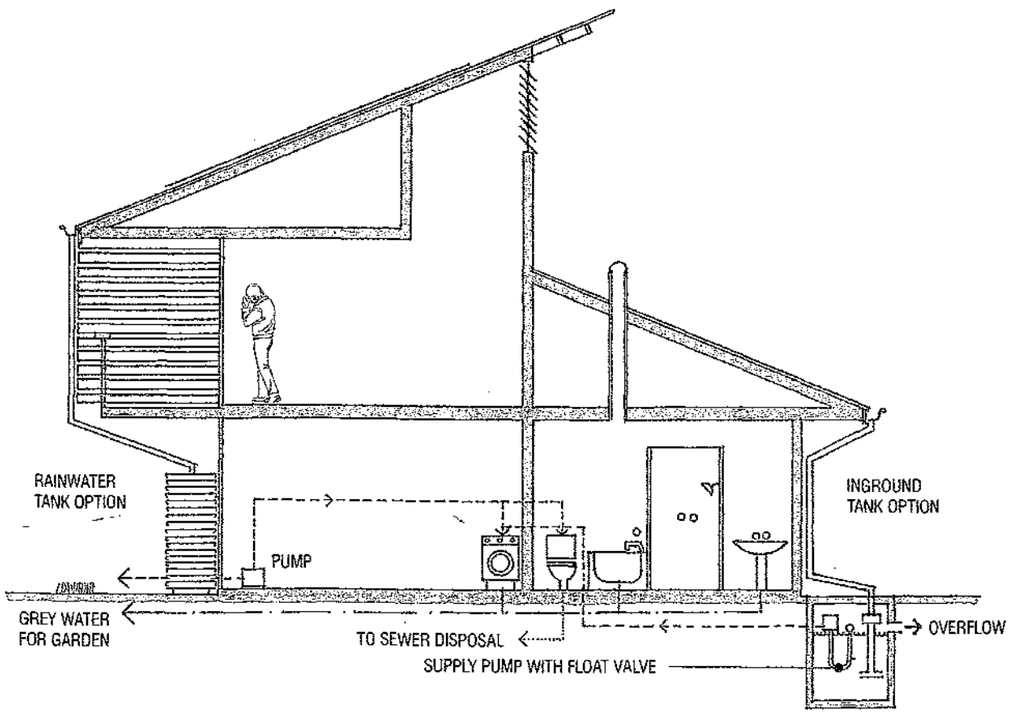
Acoustic and visual privacy should be thoroughly addressed in the design. Walls enclosing dwellings should provide maximum standards of acoustic privacy between residences. Visual privacy can be established to a reasonable level through a variety of methods including vertical privacy screens between balconies and stairs, design of balconies, balustrades, sunhoods and screen fences.

Sub-Tropical Design and Natural Ventilation:-

In all aspects of the design, particular attention should be paid to good design practice for the sub-tropics with a specific emphasis on facilitating efficient natural ventilation. It is important to remember that subtropical climates include warm summers and cool winters.

The principles include:-

- A mix of lightweight and solid building forms for good cross ventilation in summer and passive heating in winter.
- Orientation for maximum breeze access and avoidance of east and west sun.
- Significant sunshading and weather protection systems to all external openings, including provision for open windows and doors during heavy rain.
- Provision for cross ventilation to all internal spaces.
- Heat reflective lightweight insulated walls avoiding heat transfer to most external walls.
- Lightweight insulated roofs with wide overhangs.
- Internal louvred or perforated doors and cupboard doors.
- Undercover clothes drying.
- Landscape approach based on tall spreading trees for shade and selected species for breeze filtering, rather than blocking.



WATER MANAGEMENT

Natural Light, Aspects and Views:-

The dwellings should be designed generally for the best north south orientation for good quality natural light and to avoid the harsh glare of lower east and western sun, tempered by a regard for the immediate and larger range views.

Building Siting, Orientation and Access:-

Building siting and orientation within the precinct planning and neighbourhood cluster concepts and sub-tropical design principles previously discussed, should also be determined by the particular natural features of each precinct, in particular landform (contours), trees, rocks, soil types and views. Access to all dwellings within the precincts is by a hierarchy of vehicular and pedestrian systems. Each cluster has vehicular access off the primary road. Pedestrian access is by that primary road with secondary tracks providing alternative and direct access to other precincts and wider external pedestrian networks.

Acoustic Performance of Buildings:-

All dwellings will be designed to comply with all relevant codes in particular in accordance with certification requirements under the BCA.

Provision for Private Vehicle Parking:-

The integration of private vehicle parking with the dwellings is a significant brief requirement.

This can be managed by 2 options:-

- Adjacent parking – carports located off the street directly outside and in sight of related dwellings.
- Integrated parking – all cars located at ground level immediately connected with related dwellings.

The preferred option is integrated parking for all the advantages described. However site constraints may necessitate the alternative adjacent parking option being adopted in some cases.

Provision for Storage:-

Major storage should be provided for all dwelling in a secure store of 1.5 square metres minimum preferably directly associated with each covered carpark.

Integration with Landscape:-

A successful integration with the existing landscape is critical to the success of this project.

Emphasis has been placed on understanding the nature and character of the existing landscape in determining the planning form of the precincts and the design of the buildings. The key strategies in achieving successful integration with landscape are:-

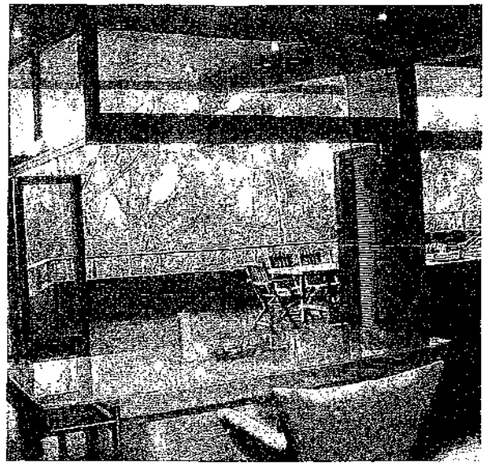
- Working with the existing landform and vegetation.
- Understanding and designing for the affects of the particular local climate.
- Developing a hierarchy of open space.
- A realistic water management strategy.
- Minimal ground disturbance during construction.
- Building forms, materials and colours to complement the natural character and that is accessible and human scaled.
- Vehicle and pedestrian circulation systems that work for the real needs of the users.
- Designing for a low maintenance regime.

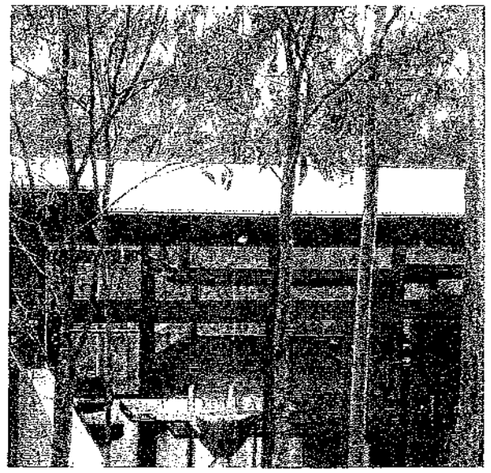
Low Life Cycle Cost Strategies:-

Maximum energy efficiency and low life cycle cost concerns will play an important part in developing all design work. Life Cycle analysis throughout the design and documentation processes will reduce total life cost by selecting the best designs and components within the limits of the project budget to minimise the total cost of facility not just first cost.

Key Low Life Cycle Cost Strategies and Concepts for this project include:-

- Design for maximum use of natural lighting.
- Design for best possible natural ventilation.
- Rainwater Management.
- Selection of minimal maintenance external materials and finishes.
- Use of standard readily available products and materials.
- Energy efficient light fittings.
- Minimal flushing toilet plans.
- Flow limited outlets to light use hydraulics fixtures.
- Use of lightweight insulated external walls.
- Well designed weather protection systems.
- Attention to detailing for minimal impact of weathering.





9.5 Landscape and Open Space Guidelines

The principles and guidelines developed in order to direct appropriate, environmentally responsive and cost effective development of landscape and open space areas associated with the Gold Coast Golf Resort Currumbin Development are set out within the Landscape Intent Report in the site-based management plan.

9.5.1 Roads and Carparks

Road design should aim to minimise impact upon the landscape in the following ways:-

- Use of minimal road widths.
- Placement of carparking areas low on slopes to avoid cutting.
- Avoidance of kerbing.
- Use of roads to drain into landscape and open space areas as form of irrigation.
- Carparking areas should include permeable paving surfaces.
- All carparking areas should be landscaped.

The detailed road design guidelines are set out within the separate Road Design document.

9.5.2 Treatment of Watercourses

Existing and new watercourses should be treated in a manner that maintains an ecological integrity, is resistant to forceful surface erosion and is attractive and safe for nearby residential areas. Specific guidelines are set out within the Landscape Intent Report in the site-based management plan.

9.5.3 Outdoor Recreational Furniture

Outdoor furniture including seating, BBQ areas and recreation spaces should be highly durable. Solid timber on galvanised steel frames should preferably be used.

9.5.4 Fencing and Security

Fencing will be limited to those areas where duty of care requires barriers to prevent likely rise of injury, where exclusive use needs to be defined.

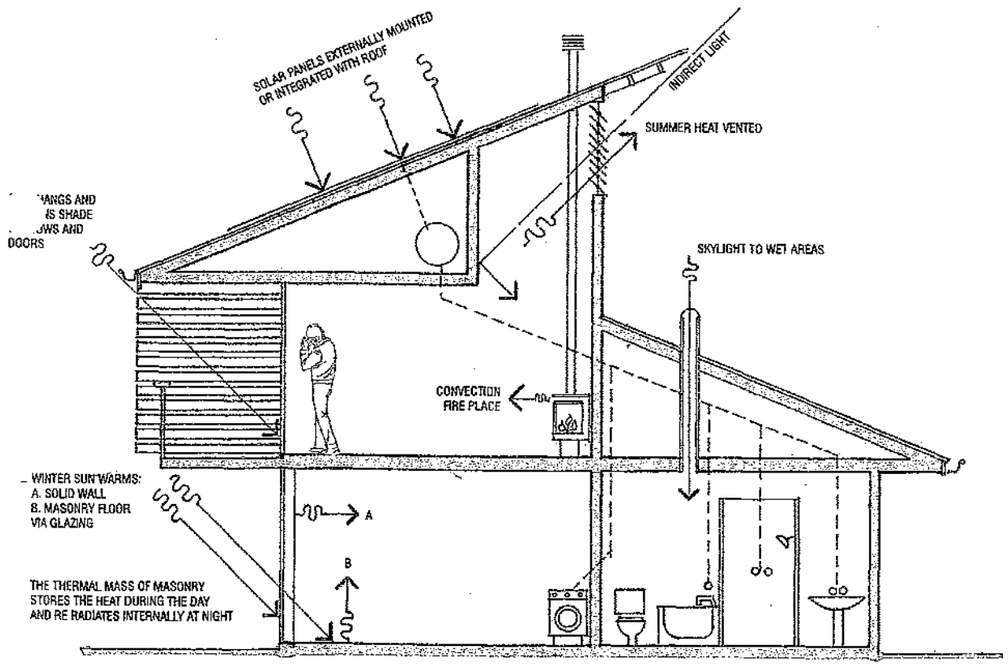
9.5.5 Lighting

The following lighting guidelines should be applied:-

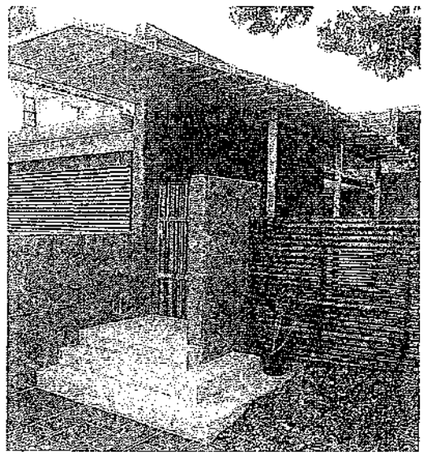
- Main streets should have simple, durable street lighting at appropriate intervals.
- In general, most open space lighting needs are best met by provision of lighting on external areas of buildings.
- Pedestrian pathways need marker lighting at key intersection/decision points only. In these areas durable metallic bollard lighting should be considered.
- Lighting should be directional and shrouded to limit night time glare.

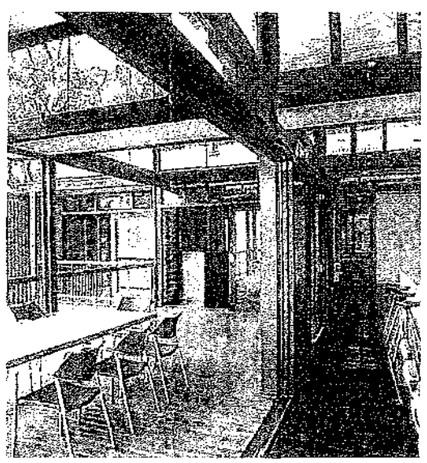
9.5.6 Signage

Minimal signage should be provided. Where necessary this should be low-set and graphically simple.



HEAT MANAGEMENT





9.5.7 Artworks/Icons

Cost effective 'placemaking' could be achieved through the engagement of local artists in order to establish a local character reference or icon. This could be undertaken to a minimal level with opportunity for members of the community to improvise, adapt and refine.

9.5.8 On-going Maintenance

The following issues should be noted with respect to the ongoing management of the redevelopment:-

- Encourage the minimal use of herbicides and pesticides in vegetation management.
- Resist the temptation to "clean up" the bush in natural bush regeneration areas.
- Encourage continued maintenance of planting areas to ensure that when short lived plants die, appropriate plants are replaced.
- Adapt and adjust plants as required as a result of the review and monitoring program.
- Formal areas may include reticulated irrigation from recycled sources.

9.5.9 Above Grade Utilities

Above grade utilities including electrical boxes, meters etc, should be located out of view and screened from adjoining roadways, parking, courts and pedestrian walkways with landscape.

9.5.10 Site Sensitive Construction Guidelines

The guidelines for construction are set out in the site based management plan.

9.6 Sustainable Guidelines

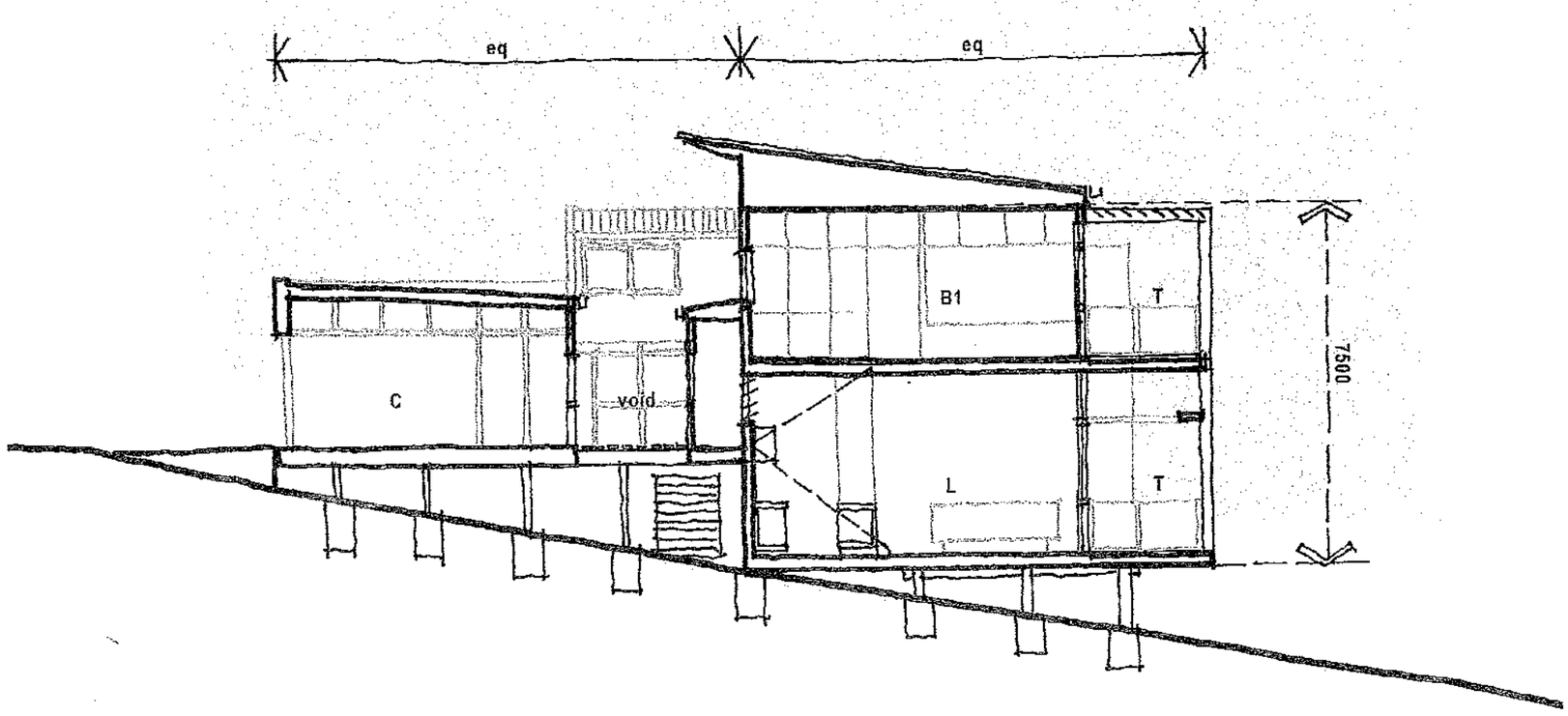
Sustainability elements which should be incorporated into residential dwellings include:-

- Incorporation of rainwater tanks.
- Use of rain water tank for outdoor use and toilet flushing.
- Solar hot water systems.
- Insulated hot water pipes.
- Water conservation rated tap ware.
- 900mm eave overhang.
- External blind & screens.
- Wall insulation to RI.5.
- Cross ventilation.
- Ceiling fans.
- Vented roof spaces.
- Light coloured metal.
- Roof material.
- Skylights.
- Fluorescent lighting.
- External drying areas.

9.7 Body Corporate Guidelines

The body corporate structure is proposed to have a layered structure with a principal body corporate and subsidiary bodies corporate. The principal body corporate will be responsible for maintenance of the common property under its direct control.

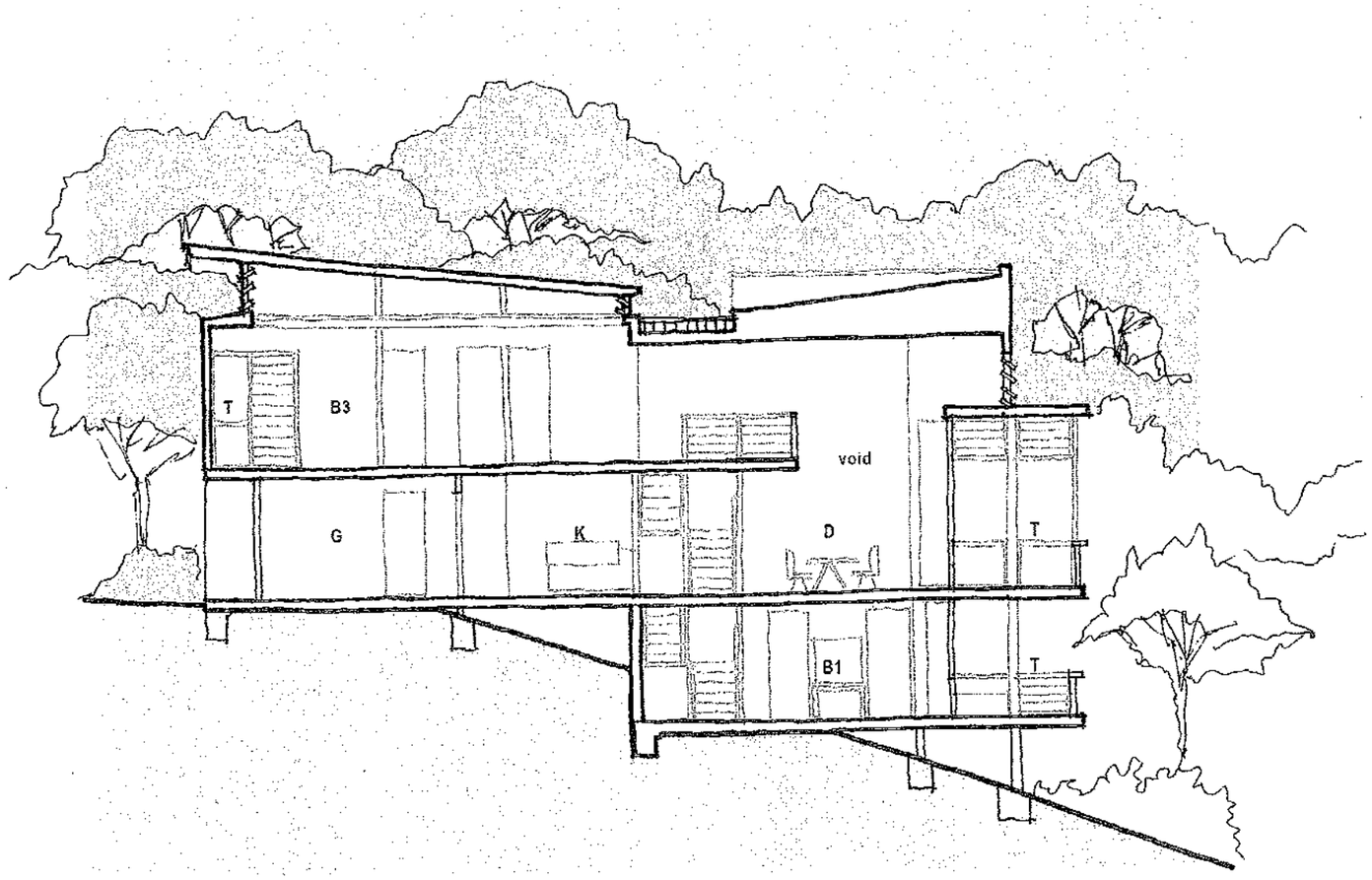
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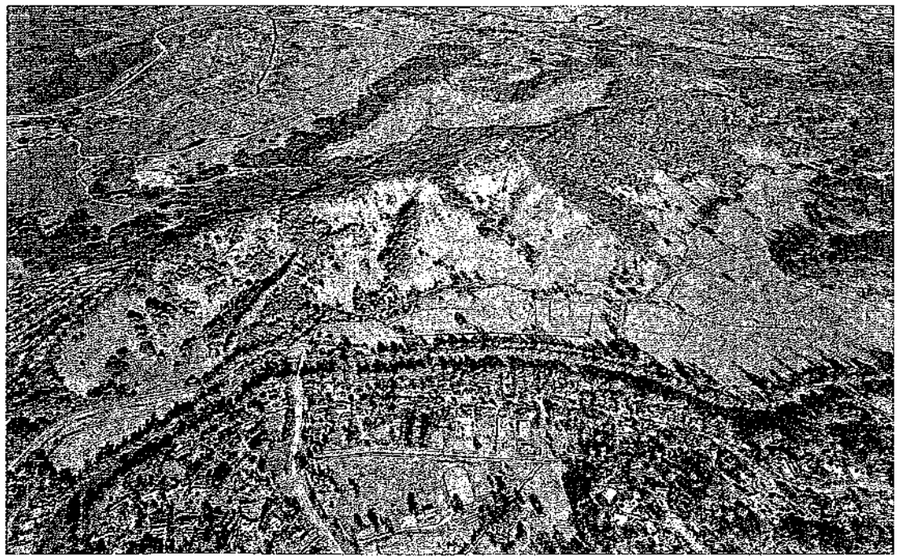
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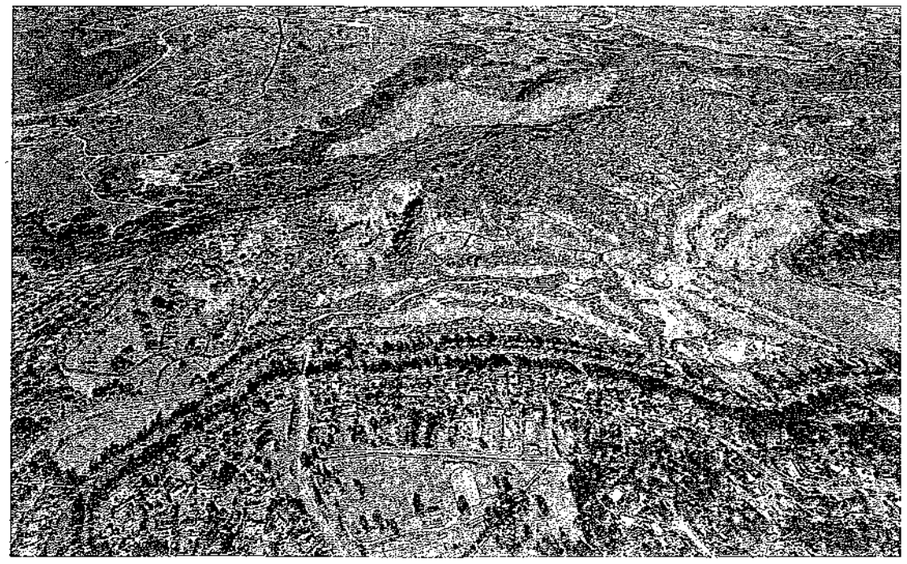
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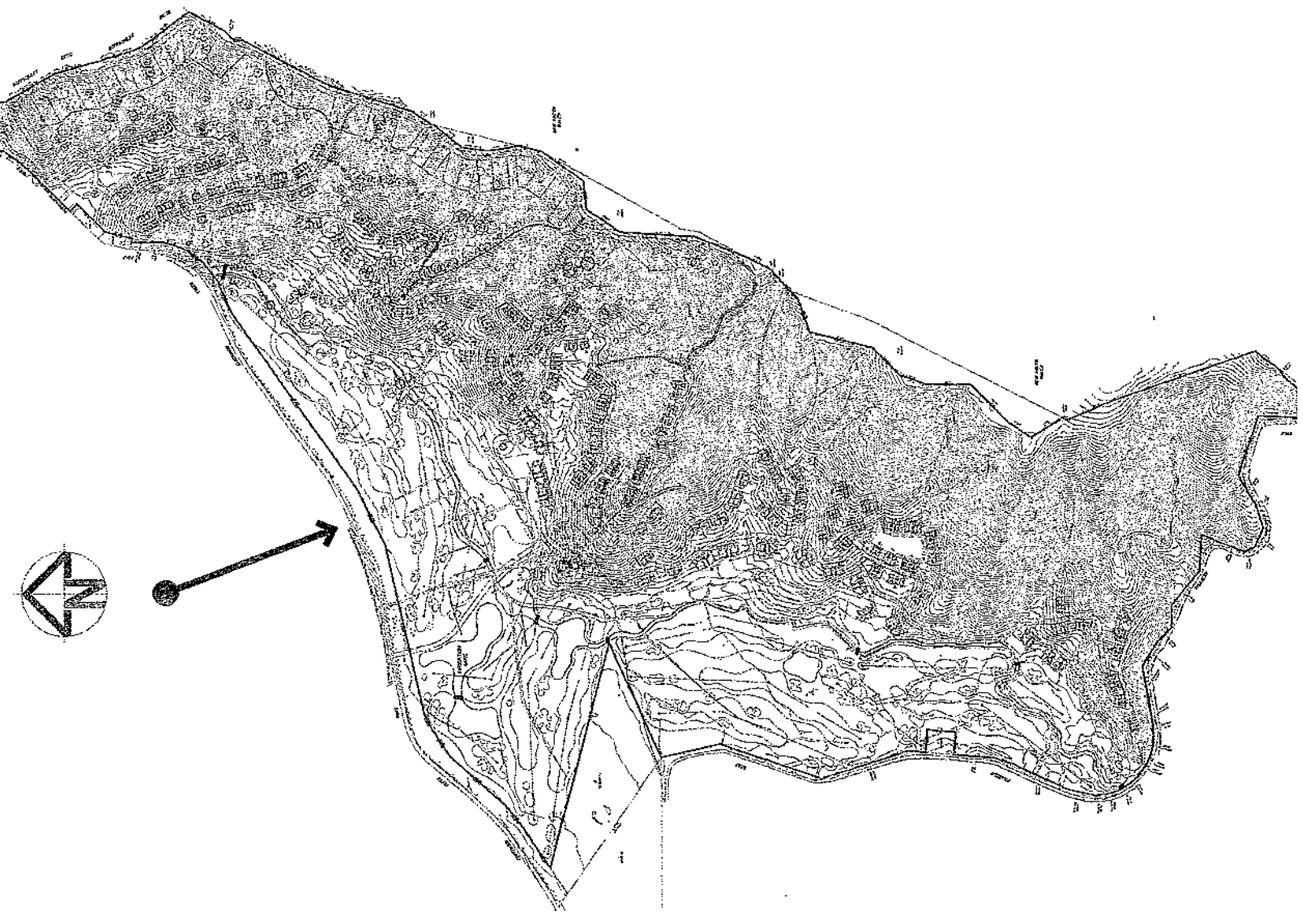
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1 before — showing existing site
2 after - -- showing proposed development
3 keyplan showing camera view

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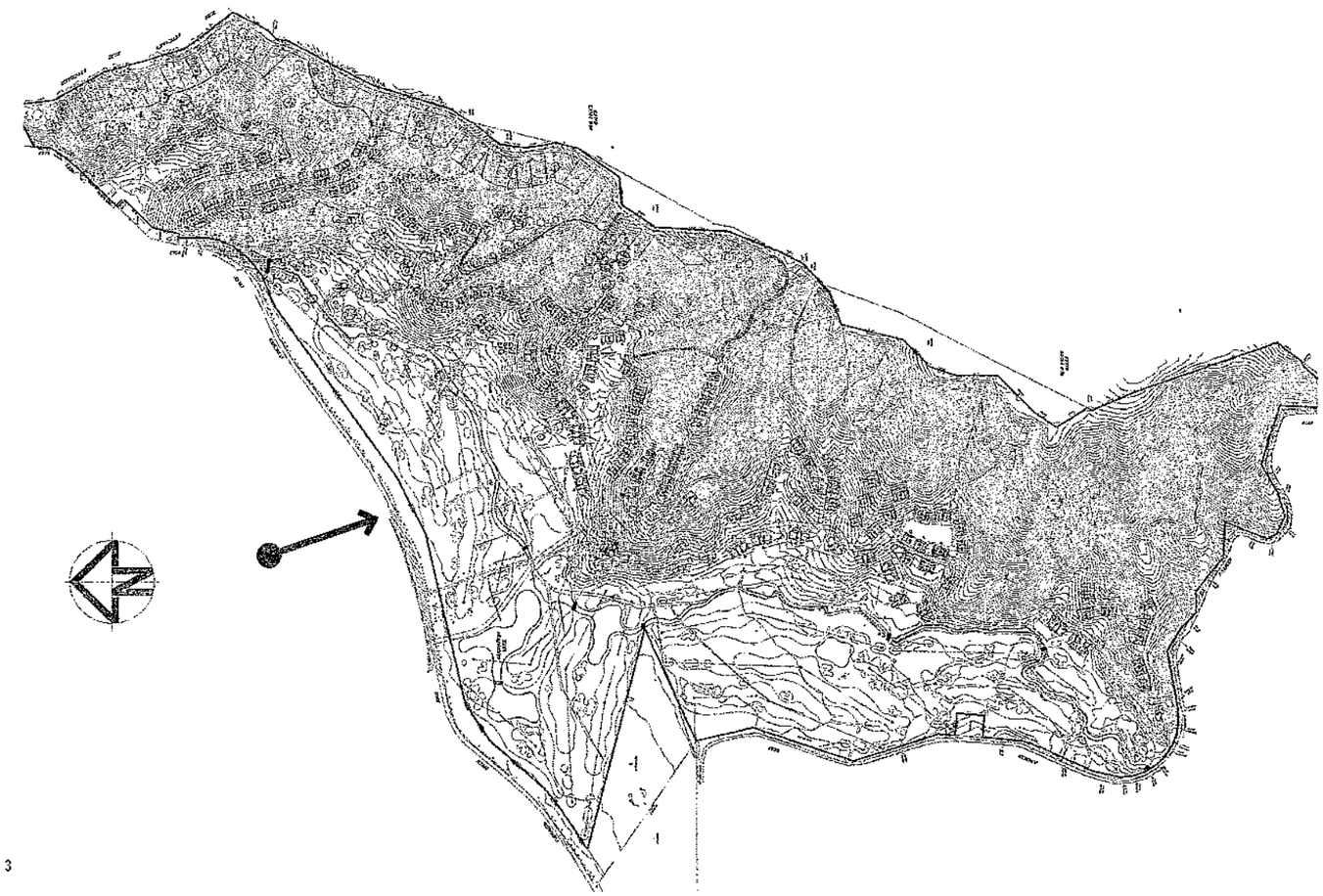
GOLD COAST GOLF RESORT CURRUMBIN site planning and design guidelines report, April 2004



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1 before — showing existing site
2 after — showing proposed development
3 keyplan showing camera view

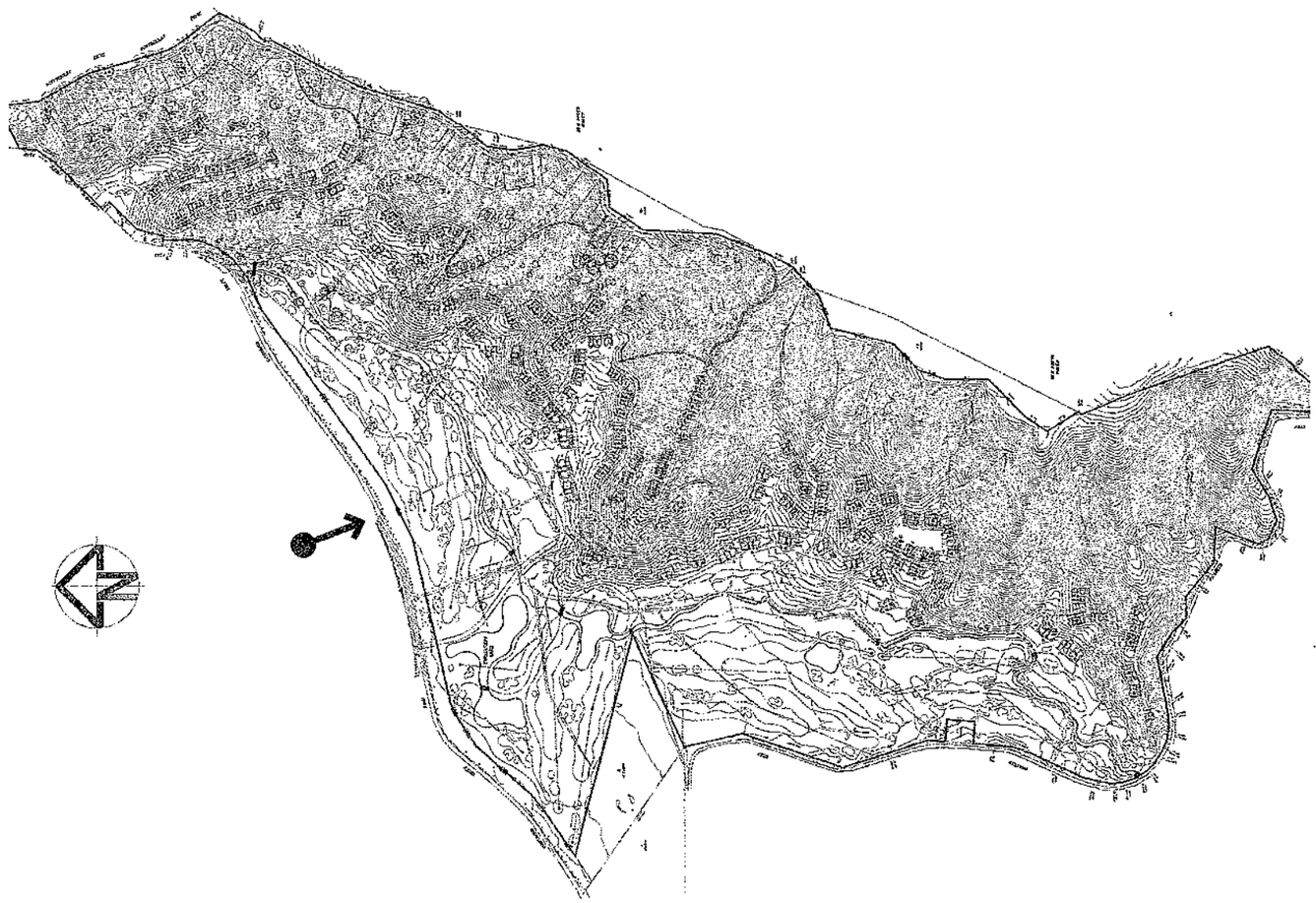
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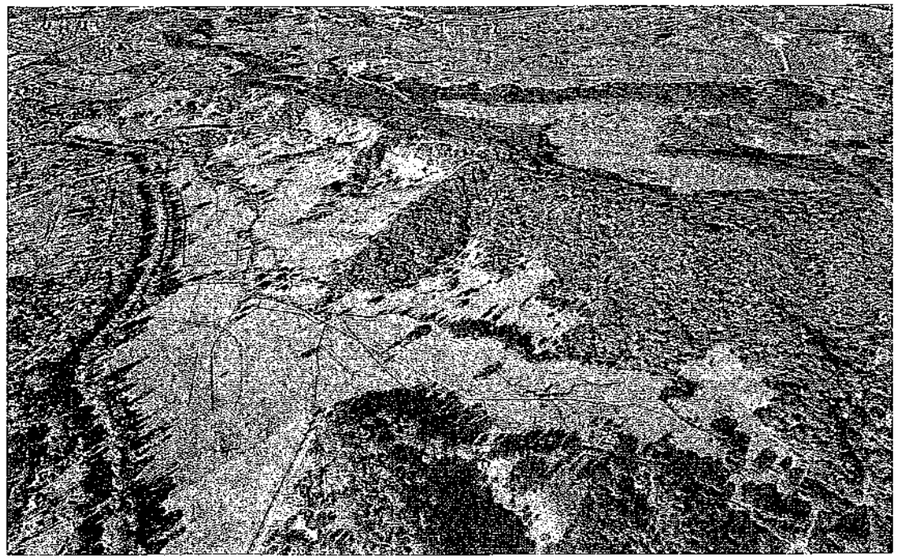
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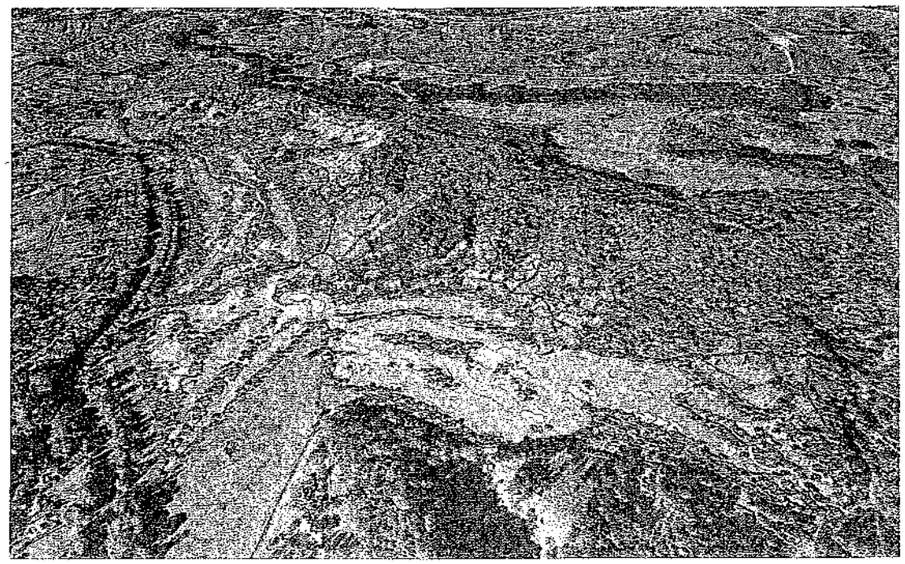
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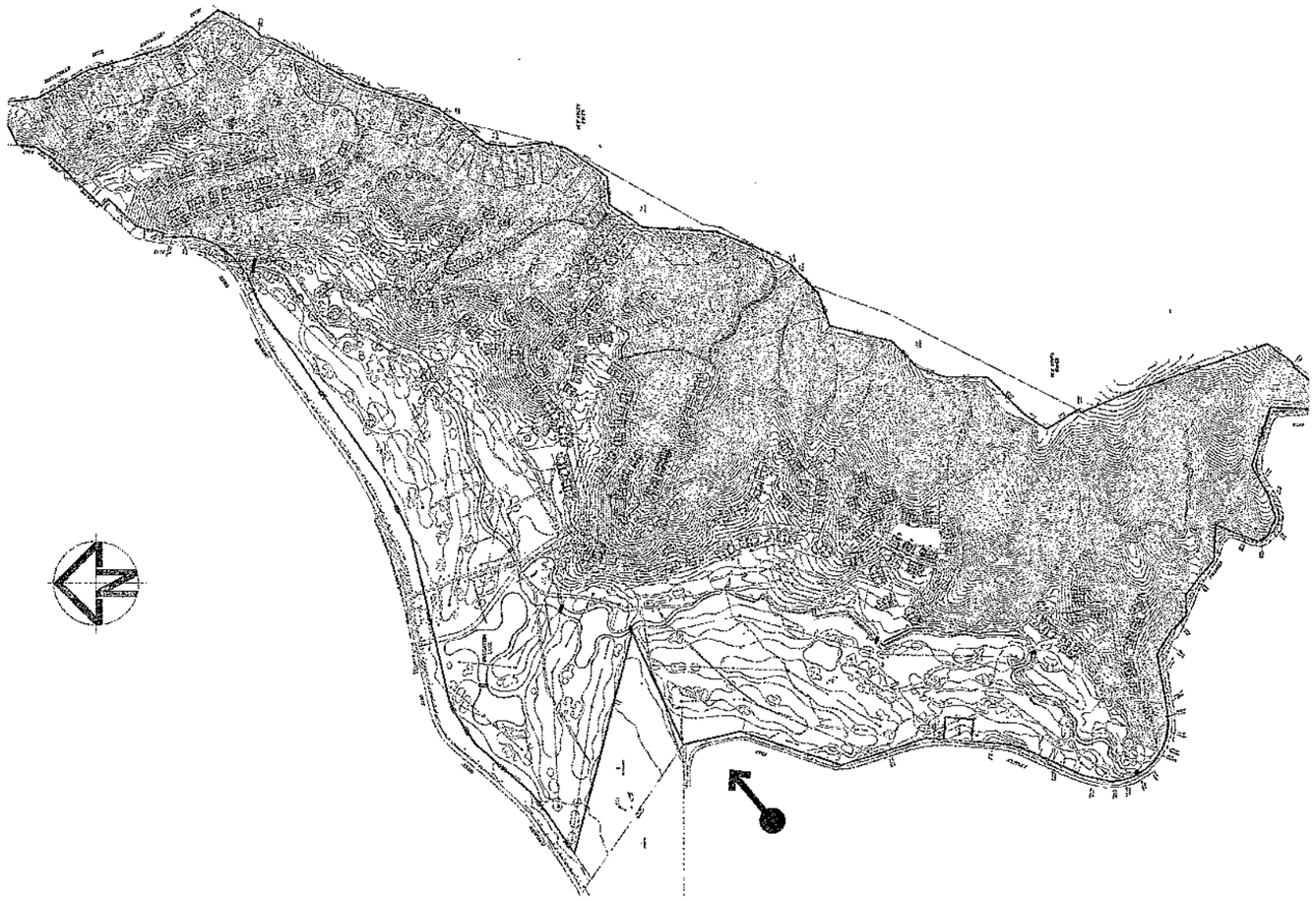
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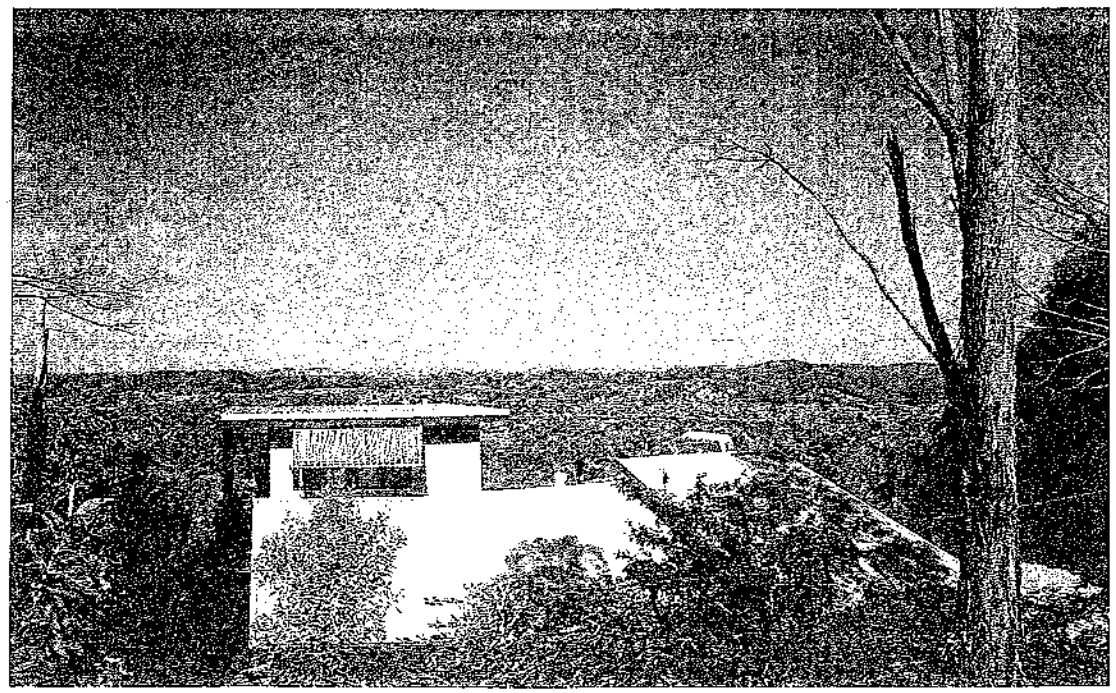
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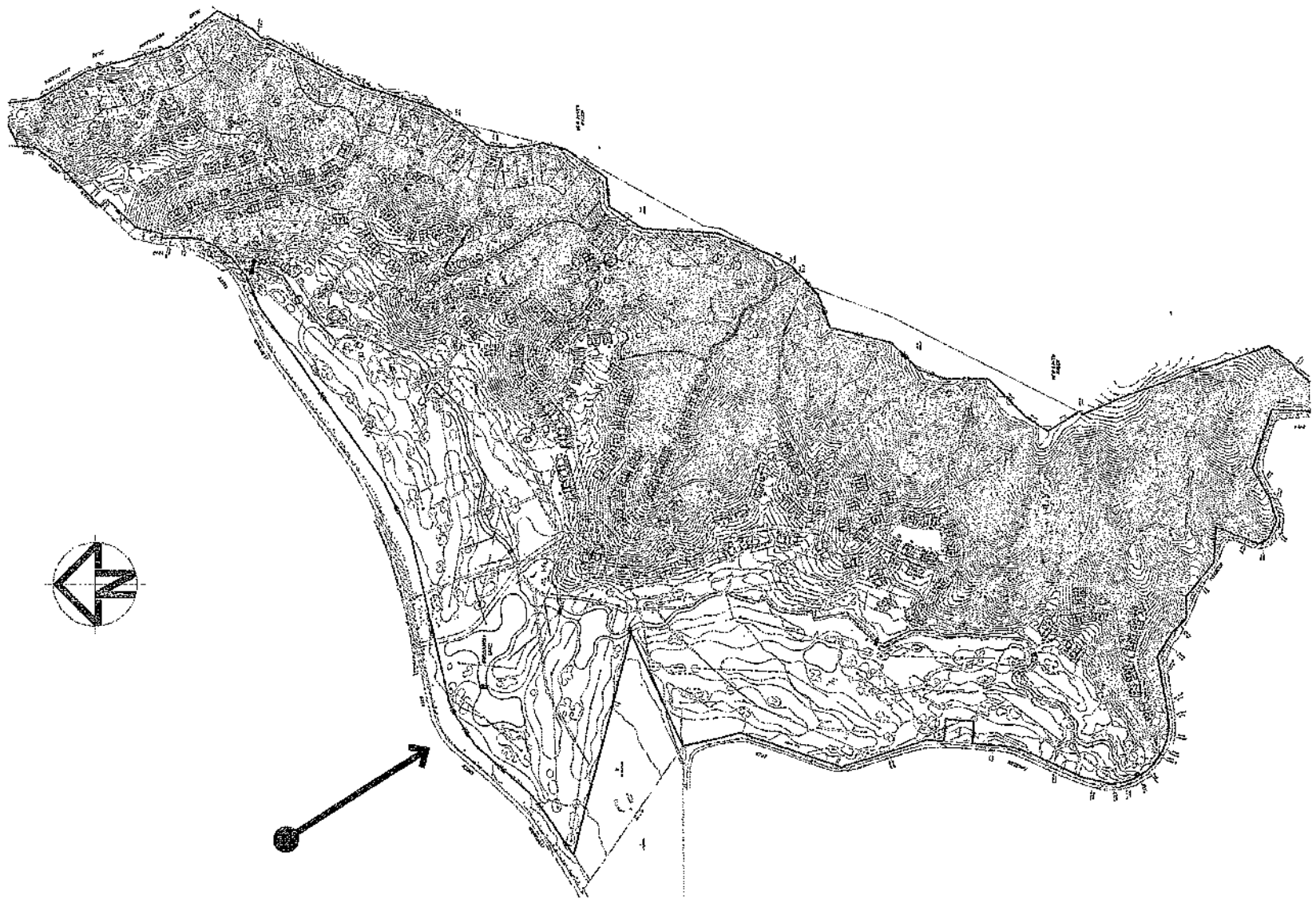
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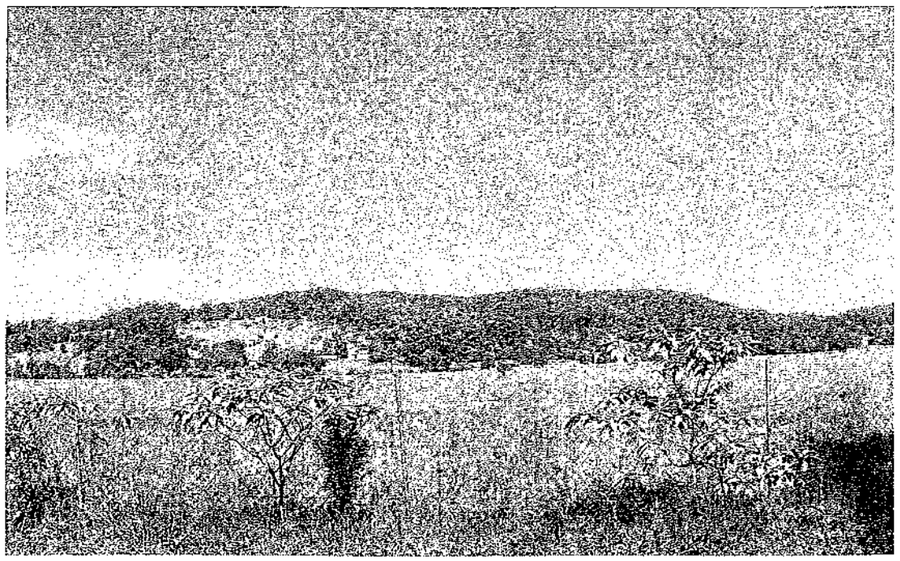


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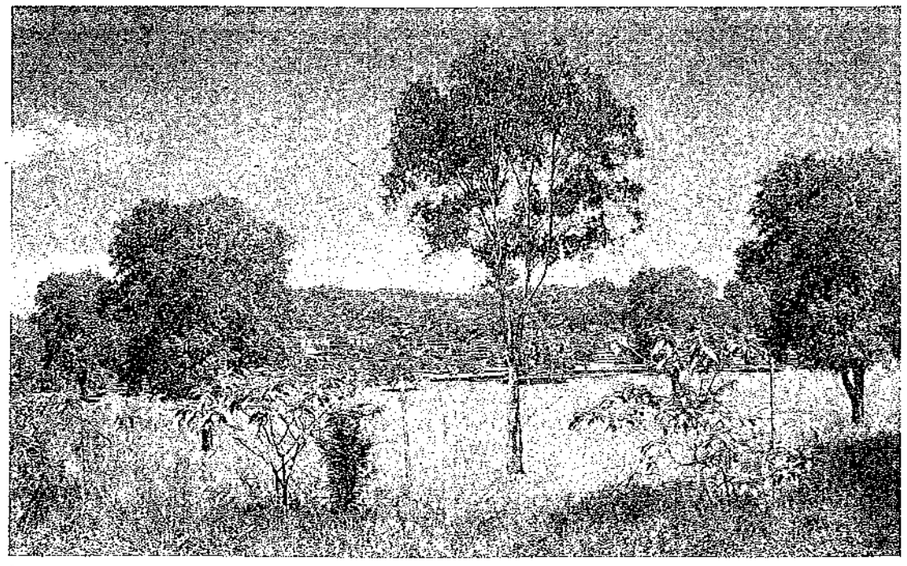
1 before — showing existing site
2 after — showing proposed development
3 keyplan showing camera view

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architects
planners
interior designers

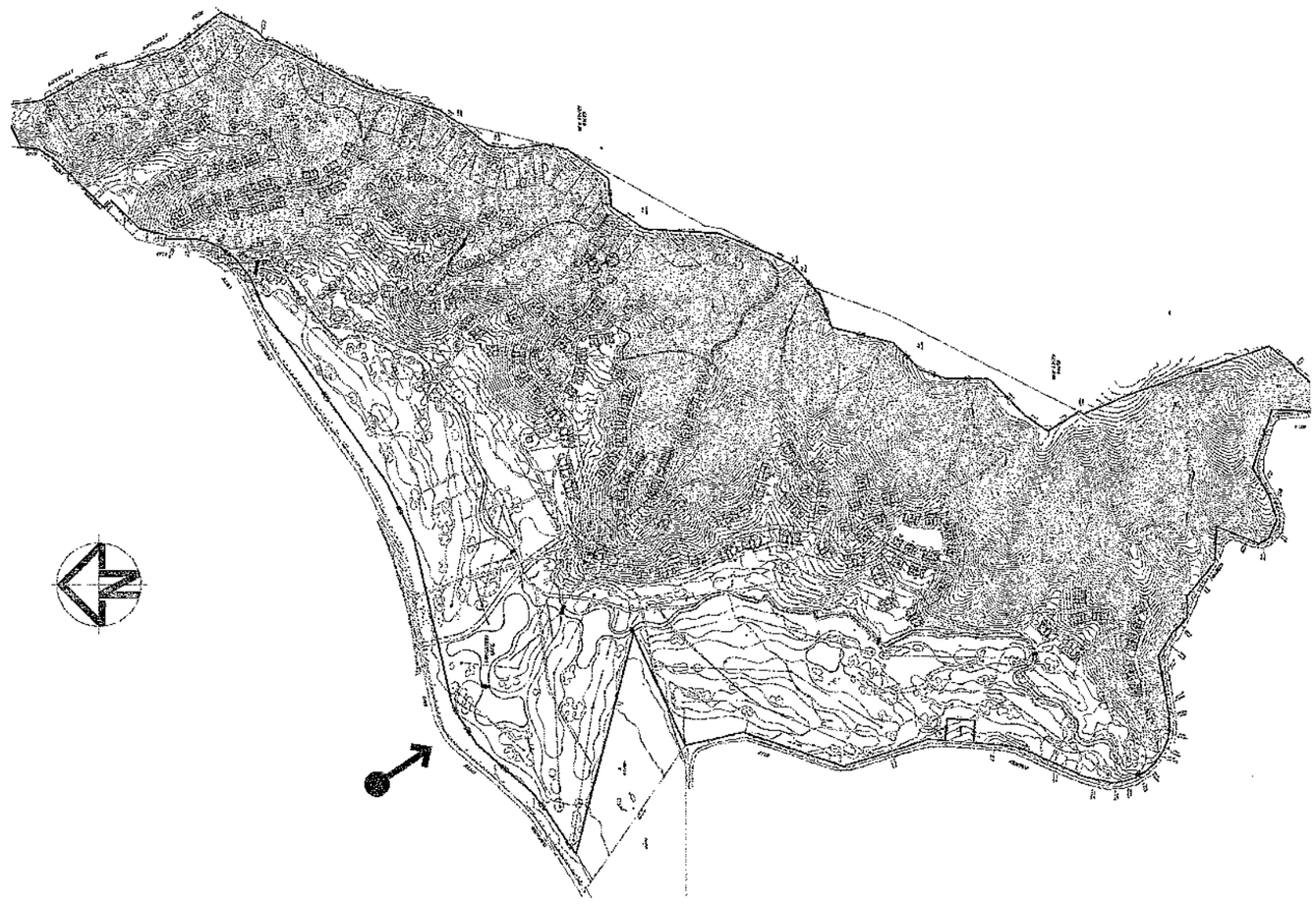
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1



2



3

1 before — showing existing site
2 after — showing proposed development
3 keyplan showing camera view

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planners
interior designers

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1



2

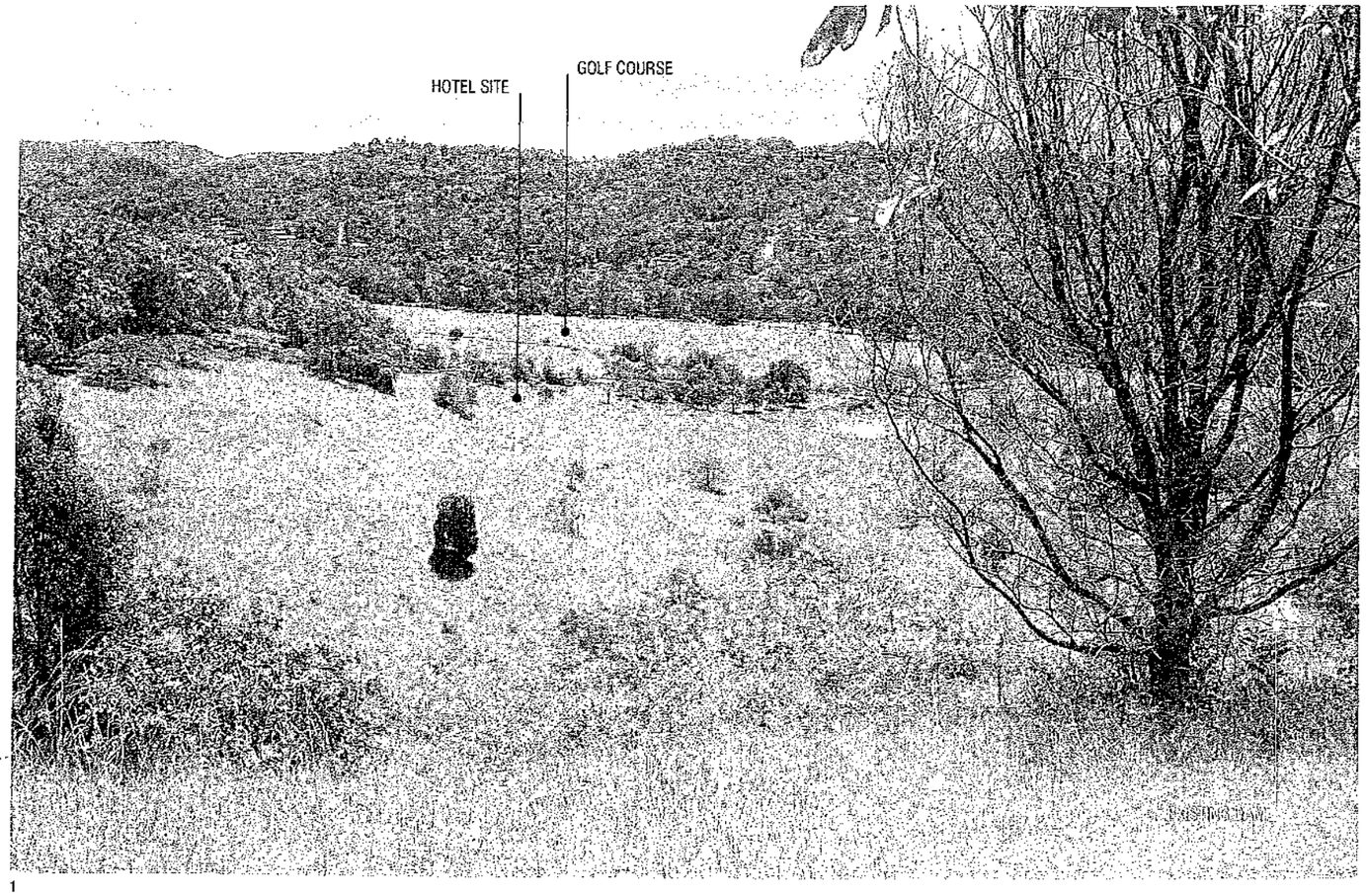


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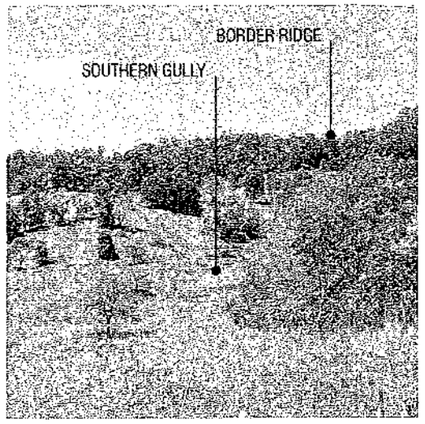
1 before — showing existing site
2 after — showing proposed development
3 keyplan showing camera view

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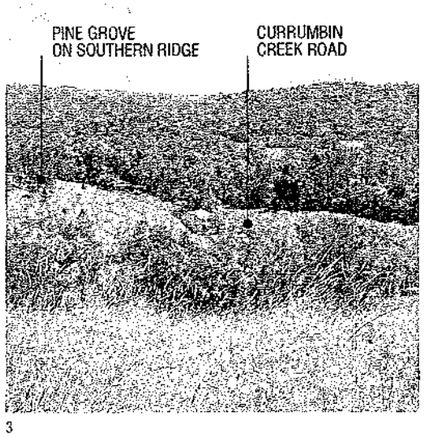
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1



2



3

1 centre valley looking southwest
2 centre valley looking north east
3 northern valley looking south

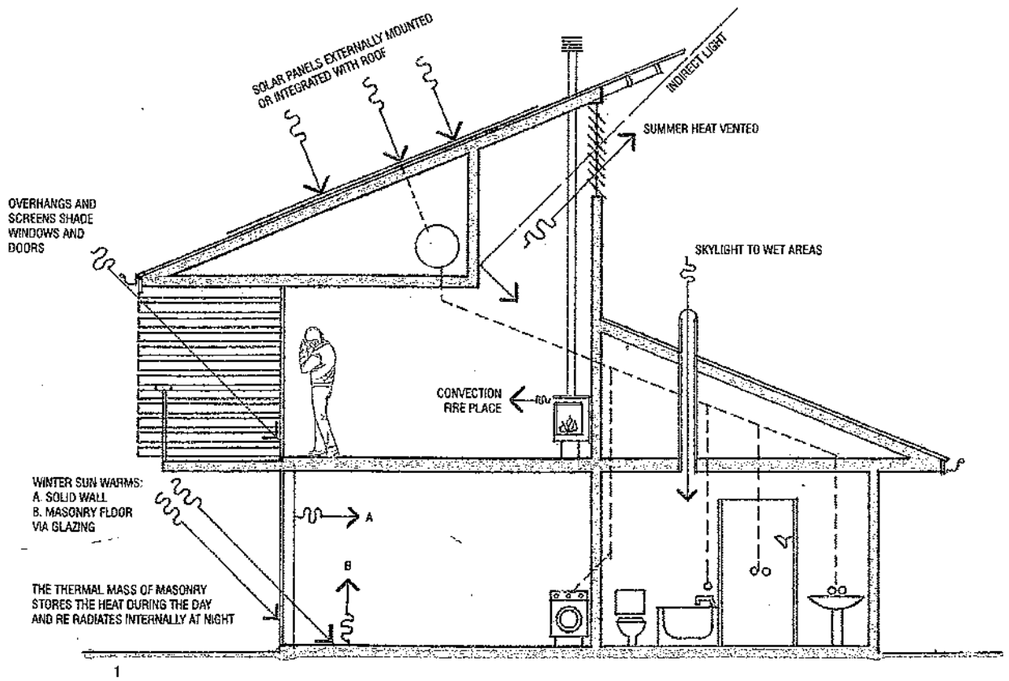
4.5 Internal Views and Landform

The water course of the northern valley offers the potential for a water based landscape treatment showcasing the main entry off Currumbin Creek Road. The south facing slopes provide distant views to the south for the individual residential lots. Those on the upper western slopes of the border ridge are provided distant views from the western hills to the ocean.

The north facing slopes are treed with pine, and provide filtered mid distant views of the valley and western hills.

The centre valley has a mix of distant views from the ridges to the north, south and west. There are also extensive view opportunities over the golf course. Middle distant views will also include the hotel and club house sites. In the valley to the north of the hotel, an existing dam system offers opportunities for another landscaped watercourse, to be the feature of an exclusive environment.

In the southern valley, development will be restricted to the open land surrounded by forest. Views will be a mix of foreground, around the existing dam and forest, middle distant views from the spurs and ridges over the golf course and from higher elevations, distant views southwest toward the Springbrook escarpment.



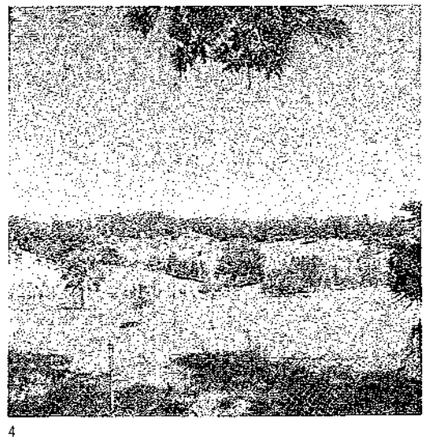
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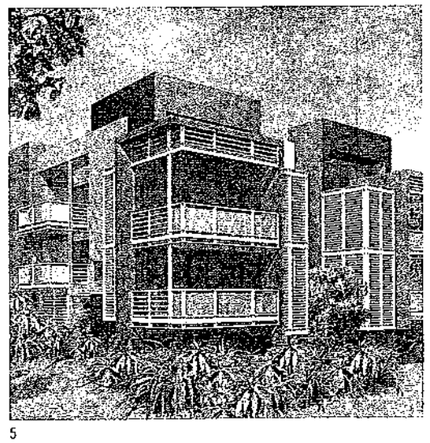
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3



4



5

1 environmentally sensitive design practices
2 golf course recreational facility
3 preservation of existing flora
4 semi rural character/low density development
5 appropriate architectural design

5.0 COMMUNITY EXPECTATIONS

The potential development of the site is of important interest to the community. The site's high visibility and environmental significance is foremost in the minds of all concerned.

From the knowledge of similarly sensitive developments in the Currumbin region and the advice of council representing the community, the issues of significance have been established are as follows:-

- Maintain an essentially visually semi rural and vegetated landscape character.
- Security for the fauna inhabiting the wildlife corridor on the north/south border ridge.
- Preservation of existing flora, particularly the stands of blackbutt.
- Maintain the floodplain and creek system as a flood regulator and riparian zone.
- Low density development.
- Environmentally sensitive design practices.
- Appropriate architectural design.
- Bushfire management.
- Recreational facilities.

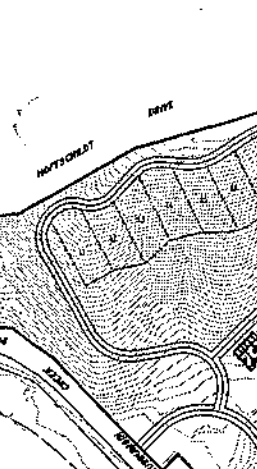
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ATTACHMENT 1

EXISTING & PROPOSED LAYOUTS

SINGLE FAMILY LOTS	34
VARIOUS UNITS	307
GOLF COURSE 5 PLEX	65
GOLD COURSE TWIN VILLAS	28
CONDOMINIUMS	120
TOTAL	554
HOTEL KEYS/ROOMS	96

Building heights up to 3 stories (as shown and described in Section 9.4.3 of the Site Planning and Design Guideline Report) and development on land up to 30% slope.



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GOLD COAST GOLF RESORT CURRUMBIN

ADVANCED CONCEPT PLAN (Based on Hulbert Group 10.11.89 Plan)

REV-A 29th APRIL 2004 PRELIMINARY SD ISSUE
REV-B 27th APRIL 2004 PRELIMINARY SD ISSUE

4600-01-B 19 April 2004

SD-10.19 1:2000 @ AO



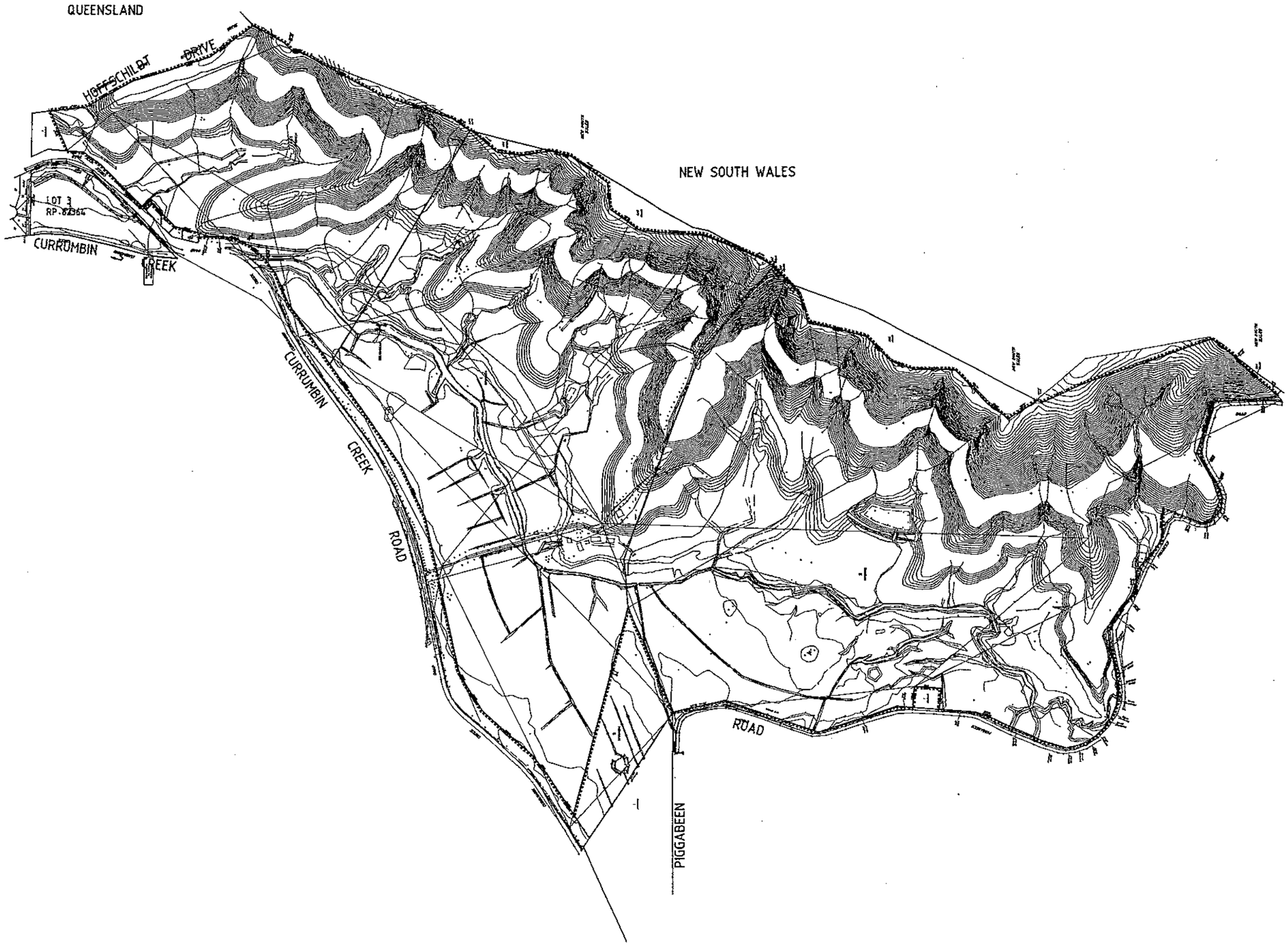
CONCEPT PLAN

A		SINGLE FAMILY	98
B		MID-ENTRY TERRACE UNITS	168
C		GOLF COURSE TERRACE UNITS (5-PLEX)	100
D		UPHILL TOWNHOUSES	0
E		TWIN VILLAS	18
F		DOWNHILL TOWNHOUSES	148
G		CONDOMINIUMS	113
		SITE TOTAL	645
H		GOLF CLUB/REC CLUB	
I		HOTEL ROOMS	150

CURRUMBIN VALLEY

00005

10 NOVEMBER 1981


QUEENSLAND
NEW SOUTH WALES
HOFFSCHILDT DRIVE
LOT 3
RP 823644
CURRUMBIN CREEK
CURRUMBIN CREEK ROAD
PIGGABEEN ROAD

ATTACHMENT 3

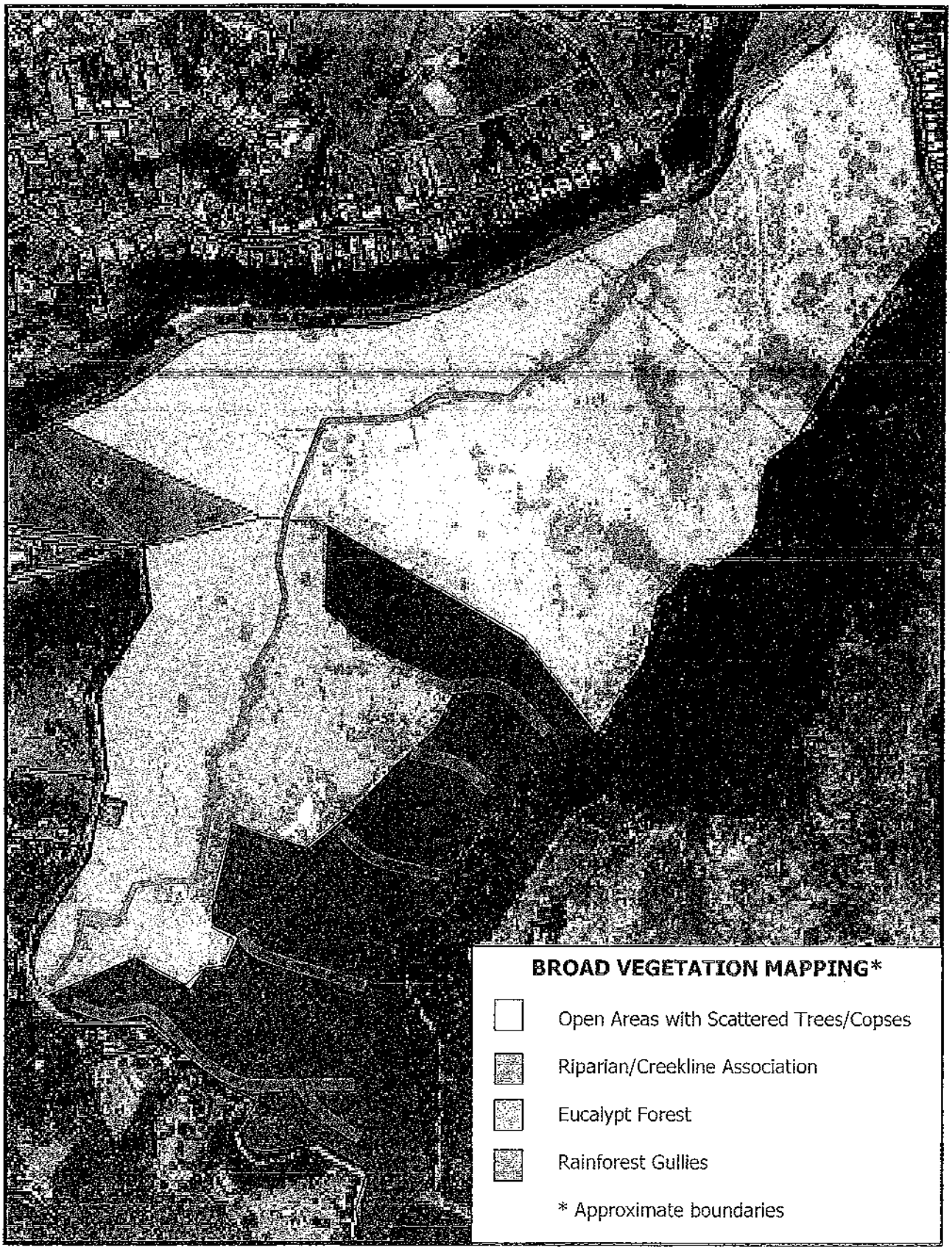
CONTOUR PLAN

ATTACHMENT 4

VEGETATION & CONSERVATION STATUS MAPPING

AND

FLORA SPECIES LIST


BROAD VEGETATION MAPPING*
Open Areas with Scattered Trees/Copses
Riparian/Creekline Association
Eucalypt Forest
Rainforest Gullies
* Approximate boundaries

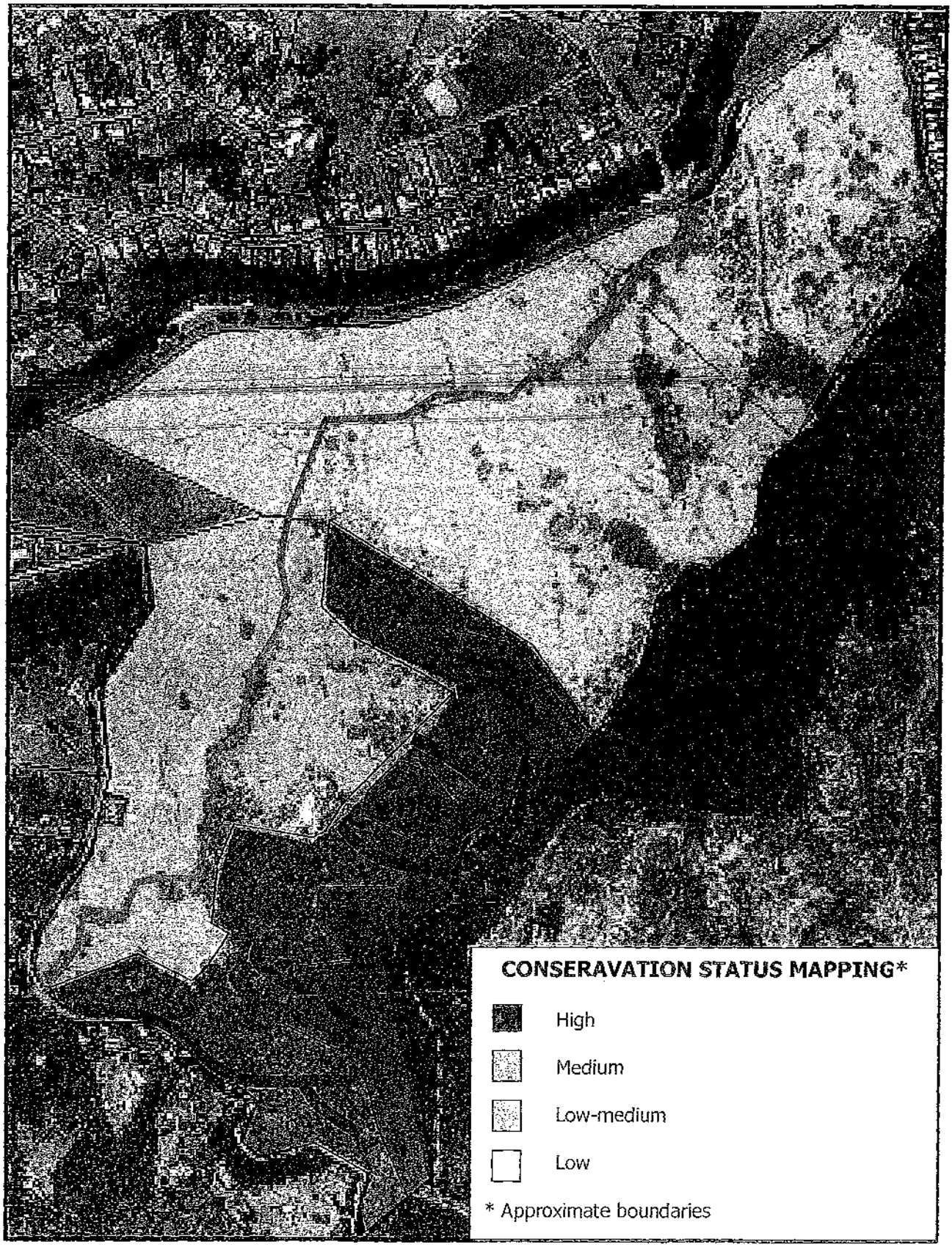


EUCALYPT FOREST: SUB-COMMUNITIES*

Mixed Open Eucalypt Forest

Tall Open Blackbutt Forest

* Approximate boundaries


CONSERAVATION STATUS MAPPING*
High
Medium
Low-medium
Low
* Approximate boundaries

CURRUMB... SPECIES LIST

Surveyed and compiled by: Jan Allen and Graham Dart
Date: November 2003-February 2004

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
1	*Acacia bakeri*	Marblewood	Mimosaceae	Tree	
2	*Acacia disparrima*	Hickory Wattle	Mimosaceae	Tree	
3	*Acacia falcata*	Wattle	Mimosaceae	Shrub/tree	
4	*Acacia fimbriata*	Fringed Wattle	Mimosaceae	Shrub/tree	C RE,F
5	*Acacia implexa*	Lightwood	Mimosaceae	Shrub	C RE,F
6	*Acacia leiocalyx*	Cunningham's Wattle	Mimosaceae	Shrub/tree	
7	*Acacia longissima*	Wattle	Mimosaceae	Shrub/tree	
8	*Acacia maidenii*	Maidens Wattle	Mimosaceae	Shrub/tree	
9	*Acacia melanoxylon*	Black Wattle	Mimosaceae	Tree	
10	*Acacia podalyriifolia*	Qld Silver Wattle	Mimosaceae	Shrub	
11	*Acmena smithii*	Creek Lilly Pilly	Myrtaceae	Shrub/tree	
12	*Acronychia laevis*	Glossy Acronychia	Rutaceae	Shrub/tree	
13	*Adiantum atroviride*	Soft Maidenhair	Adiantaceae	Fern	
14	*Adiantum hispidulum*	Rough Maidenhair	Adiantaceae	Fern	
15	*Ageratina adenophora*	Crofton Weed	Asteraceae	Herb/shrub	* P3
16	*Ageratina riparia*	Mist Weed	Asteraceae	Herb/shrub	* P3
17	*Ageratum conyzoides*	Billygoat Plant	Asteraceae	Herb	*
18	*Alchornea ilicifolia*	Native Holly	Euphorbiaceae	Shrub/tree	
19	*Alectryon subcinerius*	Birds Eye	Sapindaceae	Tree	
20	*Alectryon tomentosus*	Hairy Aletryon	Sapindaceae	Tree	
21	*Allocasuarina littoralis*	Black She-oak	Casuarinaceae	Tree	C RE,F
22	*Allocasuarina torulosa*	Forest Sheoak	Casuarinaceae	Tree	
23	*Alocasia brisbaniensis*	Cunjevoi	Araceae	Herb	
24	*Alocasia sp*	Elephant Ears	Araceae	Herb	*
25	*Alphitonia excelsa*	Red Ash	Rhamnaceae	Tree	
26	*Alpinea arundelliana*	Small Native Ginger	Zingiberaceae	Herb	
27	*Alpinea caerulea*	Native Ginger	Zingiberaceae	Herb	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
28	*Alyxia ruscifolia*	Prickly alixia	Apocynaceae	Shrub	
29	*Ambrosia artemisiifolia*	Annual Ragweed	Asteraceae	Herb	P3 *
30	*Andropogon virginicus*	Whiskey Grass	Poaceae	Herb	*
31	*Aneilema acuminatum*	Native Wandering Jew	Commelinaceae	Herb	
32	*Angophora leiocarpa*	Smooth Barked Apple	Myrtaceae	Tree	
33	*Aphananthe phillipensis*	Rough Elm	Ulmaceae	Shrub/tree	
34	*Araucaria cunninghamii*	Hoop Pine	Araucariaceae	Tree	
35	*Archidendron grandiflorum*	Pink Laceflower	Mimosaceae	Tree	
36	*Archirhodomyrtus beckleri*	Rose Myrtle	Myrtaceae	Shrub/tree	
37	*Archontophoenix cunninghamiana*	Bangalow Palm	Arecaceae	Palm	
38	*Argyrodendron actinophyllum*	Black Booyong	Sterculiaceae	Tree	
39	*Arthopteris tenella*		Nephrolepidaceae	Fern	
40	*Arytera divaricata*	Coogera/Rose Tamarind	Sapindaceae	Tree	
41	*Asclepias curassavica*	Redhead cotton bush	Asclepidaceae	Shrub	*
42	*Asclepias physocarpus*	Balloon cotton bush	Asclepidaceae	Shrub	*
43	*Asplenium australasicum*	Bird's Nest Fern	Aspleniaceae	Fern	C RE
44	*Atalaya multiflora*	Broad Leaved Whitewood	Sapindaceae	Tree	
45	*Atractocarpus chartaceus*	Narrow leafed Gardenia	Rubiaceae	Shrub	
46	*Austromyrtus dulcis*	Midyim	Myrtaceae	Shrub	
47	*Austromyrtus hillii*	Scaly Myrtle	Myrtaceae	Shrub/tree	
48	*Austroteensia blackii*	Blood Vine	Fabaceae	Vine	
49	*Avicennia marina*	Grey Mangrove	Avicenniaceae	Tree/shrub	
50	*Axonopus affinis*	Carpet grass	Poaceae	Herb	*
51	*Babingtonia similis (syn. Baeckea virgata)*	Twiggy Baeckea	Myrtaceae	Shrub	
52	*Baccharis halimifolia*	Groundsel	Asteraceae	Shrub	* P3, P4
53	*Backhousia myrtifolia*	Weeping Myrtle	Mrytaceae	Tree	
54	*Baloghia inophylla*	Scrub Bloodwood	Euphorbiaceae	Tree	
55	*Baumea articulata*	Jointed Twigrush	Cyperaceae	Herb	
56	*Beilschmeidia elliptica*	Grey Walnut	Lauraceae	Tree	
57	*Bidens pilosa*	Cobblers Pegs	Asteraceae	Herb	*
58	*Billardiera scandens var. sericata*	Common Apple-Berry	Pittosporaceae	Vine	
59	*Blechnum cartilagineum*	Gristle Fern	Blechnaceae	Fern	C RE,F
60	*Blechnum indicum*	Water Fern	Blechnaceae	Fern	C RE,F
61	*Bosistoa pentacocca*	Fern leaf Bosistoa	Rutaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
62	*Brachiaria mutica*	Para grass	Poaceae	Herb	*
63	*Brachychiton acerifolium*	Flame Tree	Sterculiaceae	Tree	
64	*Brachychiton populneus*	Kurrajong	Sterculiaceae	Tree	
65	*Breynia oblongifolia*	Coffee Bush	Euphorbiaceae	Shrub	
66	*Bridelia exaltata*	Brush Ironbark	Euphorbiaceae	Tree	
67	*Bromus uniloides*	Prairie Grass	Poaceae	Herb	
68	*Brunoniella australis*	Blue Trumpet	Acanthaceae	Herb	
69	*Bursaria spinosa*	Prickly Pine	Pittosporaceae	Shrub	C RE,F
70	*Caesalpinia subtropica*	Corky Prickle Vine	Caesalpiniaceae	Vine	
71	*Calamus muelleri*	Lawyer Vine	Arecaceae	Palm	
72	*Caldcluvia paniculosa*	Soft Corkwood	Cunoniaceae	Tree	
73	*Callerya australis*	Blunt Leaved Wisteria	Fabaceae	Vine	3RC
74	*Callerya megasperma*	Native Wisteria	Fabaceae	Vine	
75	*Callicarpa pedunculata*	Velvet Leaf	Verbenaceae	Shrub	
76	*Callistemon salignus*	White Bottlebrush	Myrtaceae	Tree	C RE,F
77	*Callistemon viminalis*	Weeping Bottlebrush	Myrtaceae	Shrub/tree	C RE,F
78	*Calochlaena dubia*	False Bracken	Dicksoniaceae	Fern	C RE,F
79	*Canthium buxifolium*	Stiff Canthium	Rubiaceae	Shrub	
80	*Capparis arborea*	Brush Caper Berry	Capparaceae	Vine	
81	*Carissa ovata*	Carissa	Apocynaceae	Shrub	
82	*Cassia bicapsularis*	Yellow Senna	Caesalpiniaceae	Shrub	*
83	*Cassia brewsteri var marksiana*	Brush Cassia	Caesalpiniaceae	Tree	RC
84	*Cassia coluteoides*	Winter Senna	Caesalpiniaceae	Shrub	*
85	*Cassia floribunda*	Smooth Cassia	Caesalpiniaceae	Shrub	
86	*Cassinia subtropica*	Cassinia	Asteraceae	Shrub	
87	*Cassytha filiformis*	Dodder	Lauraceae	Vine	
88	*Castanospermum australe*	Blackbean	Fabaceae	Tree	
89	*Castanospora alphandii*	Brown Tamarind	Sapindaceae	Tree	
90	*Casuarina cunninghamiana*	River Oak	Casuarinaceae	Tree	
91	*Casuarina glauca*	Swamp Sheoak	Casuarinaceae	Tree	
92	*Cayratia acris*	Hairy Water Vine	Vitaceae	Vine	
93	*Cayratia clematidea*	Slender Grape	Vitaceae	Climber	
94	*Celastrus australis*	Staff vine	Celastraceae	Vine	
95	*Celastrus subspicata*	Large leaf Staff Vine	Celastraceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
96	*Celtis sinensis*	Chinese Celtis	Ulmaceae	Tree	*
97	*Centella asiatica*	Gotu Kola	Apiaceae	Herb	
98	*Cheilanthes sieberi*	Mulga Fern	Schizeaeceae	Fern	
99	*Chloris gayana*	Rhodes Grass	Poaceae	Herb	*
100	*Christella dentata*	Binung	Thelypteridaceae	Fern	
101	*Chrysanthemoides monilifera*	Bitou Bush	Asteraceae	Shrub	* P2
102	*Chrysocephalum apiculatum*	Yellow Buttons	Asteraceae	Herb	
103	*Cinnamomum camphora*	Camphor Laurel	Lauraceae	Tree	*
104	*Cinnamomum oliveri*	Oliver's Sassafras	Lauraceae	Tree	
105	*Cirsium vulgare*	Spear Thistle	Asteraceae	Herb	*
106	*Cissus antarctica*	Water Vine	Vitaceae	Vine	
107	*Cissus hypoglauca*	Five leaf Water Vine	Vitaceae	Vine	
108	*Cissus opaca*	Small leaf Water Vine	Vitaceae	Vine	
109	*Citriobatus pauciflorus*	Orange Thorn	Pittosporaceae	Shrub	
110	*Citrus limon*	Lemon tree	Rutaceae	Tree/shrub	*
111	*Claoxylon australe*	Brittlewood	Euphorbiaceae	Shrub/tree	
112	*Cleistanthus cunninghamii*	Omega	Euphorbiaceae	Tree	
113	*Clerodendrum foribundum*	Lolly Bush	Verbenaceae	Shrub/tree	
114	*Commelina cyanea*	Wandering Jew	Commelinaceae	Herb	*
115	*Commersonia bartramia*	Brown Kurrajong	Sterculiaceae	Tree	
116	*Cordyline congesta*	Palm Lily	Agavaceae	Shrub	
117	*Cordyline petiolaris*	Palm Lily	Agavaceae	Shrub	C RE,F
118	*Corymbia citriodora*	Spotted Gum	Myrtaceae	Tree	
119	*Corymbia gummifera*	Red Bloodwood	Myrtaceae	Tree	
120	*Corymbia intermedia*	Pink Bloodwood	Myrtaceae	Tree	
121	*Cotula coronopifolia*	Water Buttons	Asteraceae	Herb	
122	*Crotalaria incana*	Crotalaria	Fabaceae	Herb	
123	*Croton insularis*	Silver Croton	Euphorbiaceae	Shrub	
124	*Croton verreauxii*	Native Carscarilla	Euphorbiaceae	Shrub	
125	*Cryptocarya glaucesens*	Jackwood	Lauraceae	Tree	
126	*Cryptocarya laevigata var bowei*	Glossy Laurel	Lauraceae	Shrub	
127	*Cryptocarya microneura*	Murrogun/Brown Jack	Lauraceae	Tree	
128	*Cryptocarya obovata*	Pepperberry	Lauraceae	Tree	
129	*Cryptocarya rigida*	Forest/Rose Maple	Lauraceae	Shrub/tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
130	*Cryptocarya triplinervis*	Brown Laurel	Lauraceae	Shrub/tree	
131	*Cupaniopsis anacardioides*	Tuckeroo	Sapindaceae	Tree	
132	*Cupaniopsis newmanii*	Long leaf Tuckeroo	Sapindaceae	Tree	2RC
133	*Cupaniopsis parvifolia*	Small leaf Tuckeroo	Sapindaceae	Tree	
134	*Cupaniopsis serrata*	Smooth Tuckeroo	Sapindaceae	Tree	
135	*Cyathea cooperi*	Rough Tree fern	Cyatheaceae	Fern	
136	*Cymbidium sp ind.*		Orchidaceae	Herb	C RE
137	*Cymbopogon refractus*	Barbed Wire Grass	Poaceae	Herb	
138	*Cynodon dactylon*	Couch	Poaceae	Herb	
139	*Cyperus brevifolius*	Mullumbimby Couch	Cyperaceae	Herb	*
140	*Cyperus polystachyos*	Bunchy Sedge	Cyperaceae	Herb	
141	*Cyperus sp ind*	a sedge	Cyperaceae	Herb	
142	*Davallia pyxidata*	Hare's Foot fern	Davalliaceae	Fern	C, RE
143	*Daviesia arborea*	Bitter Pea	Fabaceae	Tree	
144	*Delonix regia*	Flame Tree	Caesalpinniaceae	Tree	*
145	*Denhamia celastroides*	Denhamia	Celastraceae	Tree	
146	*Derris involuta*	Native Derris	Fabaceae	Vine	
147	*Desmodium gunnii*	Tick-trefoil	Fabaceae	Shrub	
148	*Desmodium ryhtidophyllum*	Rusty Tick-trefoil	Fabaceae	Shrub	
149	*Desmodium uncinatum*	Tick-trefoil	Fabaceae	Shrub	
150	*Dianella caerulea.*	Flax Lily	Liliaceae	Herb	
151	*Dianella longifolia*	Long leaved Flax Lily	Liliaceae	Herb	
152	*Dianella revoluta var revoluta*	Flax Lily	Liliaceae	Herb	
153	*Digitaria didactyla*	Blue Couch	Poaceae	Herb	
154	*Dioscorea transversa*	Native Yam	Dioscoreaceae	Vine	
155	*Diospyros australis*	Black Plum	Ebenaceae	Tree	
156	*Diospyros fasciculosa*	Grey Ebony	Ebenaceae	Tree	
157	*Diospyros pentamera*	Grey Persimmon	Ebenaceae	Tree	
158	*Diploglottis australis*	Native Tamarind	Ebenaceae	Tree	
159	*Dissilaria baloghoides*	Hauer	Euphorbiaceae	Tree	
160	*Dodonea triquetra*	Native Hops Bush	Sapindaceae	Shrub	
161	*Doodia aspera*	Prickly Rasp Fern	Blechnaceae	Fern	
162	*Doodia caudata*	Small Rasp Fern	Blechnaceae	Fern	
163	*Doodia media*	Common Rasp Fern	Blechnaceae	Fern	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
164	*Drymaria cordata*	Tropical Chickweed	Caryophyllaceae	Herb	*
165	*Drypetes deplanchei*	Yellow Tulip	Euphorbiaceae	Tree	
166	*Dysoxylum muelleri*	Red Bean	Meliaceae	Tree	
167	*Dysoxylum rufrum*	Hairy Rosewood	Meliaceae	Tree	
168	*Eclipta prostrata*	Eclipta	Asteraceae	Herb	*
169	*Elaeocarpus grandis*	Blue Quandong	Elaeocarpaceae	Tree	
170	*Elaeocarpus obovatus*	Hard Quandong	Elaeocarpaceae	Tree	
171	*Elaeocarpus reticulatus*	Blueberry Ash	Elaeocarpaceae	Tree	
172	*Elaeodendron australe*	Red Olive Plum	Celastraceae	Tree	
173	*Elattostachys nervosa*	Beetroot	Sapindaceae	Tree	
174	*Eleocharis equisetina*	Spike Rush	Cyperaceae	Herb	
175	*Embelia australiana*	Embelia	Myrsinaceae	Vine	
176	*Endiandra discolor*	Rose Walnut	Lauraceae	Tree	
177	*Endiandra globosa*	Black Walnut	Lauraceae	Tree	2RC
178	*Endiandra hayseii*	Velvet Laurel	Lauraceae	Tree	3VC
179	*Endiandra muelleri*	Green leaved Rose Walnut	Lauraceae	Tree	
180	*Endiandra pubens*	Hairy Walnut	Lauraceae	Tree	
181	*Entolasia stricta*	Wiry Panic	Poaceae	Herb	
182	*Eragrostis tenuifolia*	Elastic Grass	Poaceae	Herb	
183	*Erechtites valerianiifolia*	Brazilian Fireweed	Asteraceae	Herb	*
184	*Eriobotrya japonica*	Loquat	Rosaceae	Tree	*
185	*Ervatamia angustisepala*	Bannana Bush	Apocynaceae	Shrub	
186	*Erythrina vespertilio*	Bats Wing Coral Tree	Fabaceae	Tree	
187	*Erythrina x hybrida*	Coral Tree	Fabaceae	Tree	*
188	*Eucalyptus acmenoides*	White Mahogany	Myrtaceae	Tree	
189	*Eucalyptus carnea*	Broad leaved White Mahogany	Myrtaceae	Tree	
190	*Eucalyptus crebra*	Narrow leaf Ironbark	Myrtaceae	Tree	
191	*Eucalyptus grandis*	Flooded gum	Myrtaceae	Tree	
192	*Eucalyptus microcorys*	Tallowwood	Myrtaceae	Tree	C RE, F
193	*Eucalyptus pilularis*	Blackbutt	Myrtaceae	Tree	C RE, F
194	*Eucalyptus propinqua*	Grey Gum	Myrtaceae	Tree	C RE, F
195	*Eucalyptus resinifera*	Red Mahogany	Myrtaceae	Tree	
196	*Eucalyptus siderophloia*	Qld Grey Ironbark	Myrtaceae	Tree	
197	*Eucalyptus tereticornis*	Forest Red Gum	Myrtaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
198	*Eucalyptus tindaliae*	Q White Stringybark	Myrtaceae	Tree	
199	*Eucalyptus torelliana*	Cadagai	Myrtaceae	Tree	* Nth Q
200	*Eugenia uniflora*	Brazil Cherry	Myrtaceae	Shrub	*
201	*Eupomatia laurina*	Bolwarra	Eupomataceae	Shrub	
202	*Euroschinus falcata*	Ribbonwood	Anacardiaceae	Tree	
203	*Eustrephus latifolius*	Wombat Berry	Philesiaceae	Herb	
204	*Exocarya scleroidies*	A sedge	Cyperaceae	Herb	
205	*Ficus benjamina*	Weeping Fig	Moraceae	Tree	
206	*Ficus coronata*	Creek Sandpaper Fig	Moraceae	Tree	
207	*Ficus hillii*	Hill's Fig	Moraceae	Tree	
208	*Ficus macrophylla*	Moreton Bay Fig	Moraceae	Tree	
209	*Ficus platypoda*	Rock Fig	Moraceae	Tree	
210	*Fimbristylis dichotoma*	Common Fringe-rush	Cyperaceae	Herb	
211	*Flagellaria indica*	Whip Vine	Flagellariaceae	Vine	
212	*Flindersia australis*	Teak	Rutaceae	Tree	
213	*Flindersia bennettiana*	Bennet's Ash	Rutaceae	Tree	
214	*Flindersia schottiana*	Cudgerie	Rutaceae	Tree	
215	*Flindersia xanthoxyla*	Yellow wood	Rutaceae	Tree	
216	*Gahnia aspera*	Sword Grass	Cyperaceae	Herb	
217	*Geitonoplesium cymosum*	Scrambling Lily	Philesiaceae	Herb	
218	*Gleichenia dicarpa*	Tangle Fern	Gleicheniaceae	Fern	C RE,F
219	*Glochidion ferdinandi*	Cheese tree	Euphorbiaceae	Tree	
220	*Glochidion sumatranum*	Umbrella Cheese Tree	Euphorbiaceae	Tree	
221	*Glycine clandestina*	Glycine	Fabaceae	Herb	
222	*Glycine tabacina*	Glycine Pea	Fabaceae	Herb	
223	*Gnaphalium sp. ind.*	Cudweed	Asteraceae	Herb	*
224	*Goodenia rotundifolia*	Goodenia	Goodeniaceae	Herb	
225	*Grevillea robusta*	Silky Oak	Proteaceae	Tree	
226	*Grewia latifolia*	Dogs Balls	Tiliaceae	Shrub	
227	*Guioa semiglauca*	Guioa	Sapindaceae	Tree	
228	*Gymnostachys anceps*	Settler's Flax	Araceae	Herb	
229	*Hakea florulenta*	Hakea	Proteaceae	Shrub	
230	*Hardenbergia violacea*	Native Sarsparilla	Fabaceae	Vine	C RE, F
231	*Harpulia pendula*	tulipwood	Sapindaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
232	*Hedraianthera porphyropetala*	Hedraianthera	Celastraceae	Shrub	
233	*Helichrysum diosmifolium*	Sago Flower	Asteraceae	Shrub	
234	*Helichrysum ramosissimum*	Yellow buttons	Asteraceae	Herb	
235	*Helicia ferruginea*	Rusty Helicia	Proteaceae	Tree	3RC
236	*Hibbertia aspera*	Hibbertia	Dilleniaceae	Shrub	
237	*Hibbertia dentata*	Trailing guinea flower	Dilleniaceae	Vine	
238	*Hibbertia stricta*	a guinea flower	Dilleniaceae	Shrub	
239	*Hibbertia vestita*	Small-leaf Guinea Bush	Dilleniaceae	Shrub	
240	*Hibiscus heterophyllus*	Native Rosella	Malvaceae	Shrub	
241	*Hovea acutifolia*	Purple Pea Bush	Fabaceae	Shrub	
242	*Hoya australis*	Wax Flower Vine	Asclepidaceae	Vine	
243	*Hybanthus enneaspermus*	Spade Flower	Violaceae	Herb	
244	*Hymenosporum flavum*	Native Frangipani	Apocynaceae	Tree	
245	*Hypochoeris radicata*	Flatweed	Asteraceae	Herb	*
246	*Hypolepis muelleri*	Harsh Ground-fern	Dennataedtiaceae	Fern	
247	*Imperata cylindrica* var *major*	Blady Grass	Poaceae	Herb	
248	*Ipomea cairica*	Five-leaf Morning glory	Convolvulaceae	Vine	*
249	*Ipomea purpurea*	Morning glory	Convolvulaceae	Vine	*
250	*Jacaranda mimosaifolia*	Jacaranda	Bignoniaceae	Tree	*
251	*Jacksonia scoparia*	Dogwood	Fabaceae	Shrub	C RE,F
252	*Jagera pseudorhus*	Foambark	Sapindaceae	Tree	
253	*Juncus polyanthemus*	A rush	Juncaceae	Herb	
254	*Juncus usitatus*	Common rush	Juncaceae	Herb	
255	*Kennedia rubicunda*	Kennedy Pea	Fabaceae	Vine	
256	*Koelreuteria panniculata*	Golden Rain Tree	Sapindaceae	Tree	*
257	*Kreysigia multiflora*	Sarsparilla Lily	Convolvulaceae	Herb	
258	*Lagerstroemia indica*	Crepe Myrtle	Lythraceae	Tree	*
259	*Lantana camara*	Lantana	Verbenaceae	Shrub	*
260	*Lantana montevidensis*	Purple Lantana	Verbenaceae	Shrub	*
261	*Laxmannia gracilis*	Wire Lily	Anthericaceae	Herb	
262	*Lepiderema pulchella*	Fine leaf Tuckeroo	Sapindaceae	Tree	2RC
263	*Lepidosperma laterale*	Variable Sword-sedge	Cyperaceae	Herb	
264	*Lepironia articulata*	Giant Sedge	Cyperaceae	Herb	
265	*Leptospermum polygalifolium*	Wild May	Myrtaceae	Shrub	C RE,F

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
266	*Leucopogon juniperinus*	Prickly Heath	Epacridaceae	Shrub	
267	*Ligustrum lucidum*	Large Leaf Privet	Oleaceae	Shrub	*
268	*Ligustrum sinense*	Small Leaf Privet	Oleaceae	Shrub	*
269	*Lindsaea linearis*	Wedge Fern	Lindsaeaceae	Fern	
270	*Lindsaea microphylla*	Lacy Wedge Fern	Lindsaeaceae	Fern	
271	*Litsea reticulata*	Bolly gum	Lauraceae	Tree	
272	*Livistona australis*	Cabbage Palm	Arecaceae	Palm	
273	*Lobelia gibbosa*		Campanulaceae	Herb	
274	*Lobelia purpurascens*	White Root	Campanulaceae	Herb	
275	*Lobelia trigonocaulis*	Forest Lobelia	Campanulaceae	Herb	
276	*Lomandra filiformis*	Forest Matrush	Xanthorrhoeaceae	Herb	
277	*Lomandra hystrix*	Creek Matrush	Xanthorrhoeaceae	Herb	
278	*Lomandra longifolia*	Common Mat rush	Xanthorrhoeaceae	Herb	
279	*Lomandra multiflora*	Many flowered Matrush	Xanthorrhoeaceae	Herb	C RE, F
280	*Lomatia silaifolia*	Crinkle Bush	Proteaceae	Shrub	C RE, F
281	*Lophostemon confertus*	Brush Box	Myrtaceae	Tree	
282	*Lophostemon suavolens*	Swamp Brush Box	Myrtaceae	Tree	
283	*Ludwidgia octovalvis*	Willow Primrose	Onagraceae	Shrub	
284	*Ludwidgia peploides*	Water Primrose	Onagraceae	Herb	*
285	*Macaranga tanarius*	Macaranga	Euphorbiaceae	Tree	
286	*Macfadyena unguis-cati*	Cat's Claw Creeper	Bignoniaceae	Vine	*
287	*Maclura cochinchinensis*	Cockspur Thorn	Moraceae	Shrub/vine	
288	*Mallotus claoxyloides*	Green Kamala	Euphorbiaceae	Tree	
289	*Mallotus philippensis*	Red Kamala	Euphorbiaceae	Tree/shrub	
290	*Mangifera indica*	Mango	Anacardiaceae	Tree	*
291	*Marsdenia coronata*	Marsdenia	Asclepiadaceae	Vine	V
292	*Maytenus disperma*	Orange Bush	Celastraceae	Tree/shrub	
293	*Maytenus silvestris*	Narrow-leaf Orangebark	Celastraceae	Shrub	C RE,F
294	*Medicosma cunninghamii*	Pinkheart	Rutaceae	Shrub/tree	
295	*Meiogyne stenopetela*	Fissistigma	Annonaceae	Shrub/tree	
296	*Melaleuca linariifolia*	Flax Leaf Paperbark	Myrtaceae	Tree	C RE,F
297	*Melaleuca quinquenervia*	Broad leaved Paperbark	Myrtaceae	Tree	C RE,F
298	*Melia azederach*	White Cedar	Meliaceae	Tree	
299	*Melicope elleryana*	Pink Euodia	Rutaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
300	*Melodinus australis*	Southern Melodinus	Apocynaceae	Vine	
301	*Melodorum leichhardtii*	Zig Zag Vine	Annonaceae	Vine	
302	*Microlaena stipoides*	Weeping Grass	Poaceae	Herb	
303	*Mischocarpus anodontus*	Veiny Pear-fruit	Sapindaceae	Tree	
304	*Mischocarpus pyriformis*	Woolly Pear-fruit	Sapindaceae	Tree	
305	*Morinda jasminoides*	Morinda	Rubiaceae	Shrub/vine	
306	*Morus rubra*	Black Mulberry	Moraceae	Tree	*
307	*Murdannia graminea*	Slug Herb	Commelinaceae	Herb	
308	*Myriophyllum crispatum*	Water Milfoil	Haloragaceae	Herb	
309	*Neolitsea dealbata*	White Bolly gum	Lauraceae	Tree	
310	*Neonotonia wightii*	Glycine	Fabaceae	Shrub/vine	*
311	*Nephrolepsis cordifolia*	Fishbone fern	Nephrolepidaceae	Fern	*
312	*Notelaea johnsonii*	Veinless Mock Olive	Oleaceae	Tree/shrub	
313	*Notelaea longifolia*	Large Mock Olive	Oleaceae	Tree/shrub	
314	*Notelaea ovata*	Mock Olive	Oleaceae	Tree/shrub	
315	*Nymphaea caerulea*	Blue Water lily	Nymphaeaceae	Herb	*
316	*Nymphaea capensis*	Cape Water Lily	Nymphaeaceae	Herb	*
317	*Nymphoides indica*	Water Snowflake	Menyanthaceae	Herb	
318	*Ochna atropurpurea*	Mickey Mouse Plant	Ochnaceae	Shrub	*
319	*Olea paniculata*	Native Olive	Oleaceae	Tree	
320	*Olearia nernstii*	Snow Bush	Asteraceae	Shrub	
321	*Omalanthus nutans*	Bleeding Heart	Euphorbiaceae	Shrub/tree	
322	*Oplismenus aemulus*	Oplismensus	Poaceae	Herb	
323	*Ottochloa gracillima*	Ottochloa	Poaceae	Herb	
324	*Ozothamnus diosmifolius*	Sago Flower	Asteraceae	Shrub	C RE,F
325	*Pandorea jasminoides*	Bower of Beauty	Bignoniaceae	Vine	
326	*Pandorea pandorana*	Wonga Vine	Bignoniaceae	Vine	
327	*Panicum maximum*	Guinea Grass	Poaceae	Herb	*
328	*Panicum pygmaeum*	Feather Grass, Dwarf Panic	Poaceae	Herb	*
329	*Pararistolochia praevenosa*	Richmond Birdwing vine	Aristolochiaceae	Vine	R
330	*Parsonsia straminea*	Common Silkpod	Apocynaceae	Vine	
331	*Paspalum dilatatum*	Paspalum	Poaceae	Herb	*
332	*Paspalum distichum*	Water Couch	Poaceae	Herb	
333	*Passiflora aurantia*	Blunt leaf Passionfruit	Passifloraceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
334	*Passiflora edulis*	Black Passionfruit	Passifloraceae	Vine	*
335	*Passiflora suberosa*	Corky passionflower	Passifloraceae	Vine	*
336	*Passiflora subpeltata*	White Passionfruit	Passifloraceae	Vine	
337	*Patersonia glabrata*	Native Iris	Iridaceae	Herb	
338	*Pennisetum clandestinum*	Kikuyu Grass	Poaceae	Herb	*
339	*Pentaceras australis*	Penta Ash	Rutaceae	Tree	
340	*Peperomia leptostachya*	Native Peperomia	Peperomiaceae	Herb	
341	*Peripleura hispidula*		Asteraceae	Herb	
342	*Persea gratissima*	Avocado	Lauraceae	Tree	*
343	*Persicaria decipiens*	Slender Knotweed	Polygonaceae	Herb	
344	*Persoonia cornifolia*	Broad leaved Geebung	Proteaceae	Shrub	
345	*Persoonia tenuifoila*	Fine leaf Geebung	Proteaceae	Shrub	
346	*Petalostigma triloculare*	Quinine Bush	Euphorbiaceae	Shrub	
347	*Phragmites australis*	Common Reed	Poaceae	Herb	
348	*Phylidrum languinosum*	Woolly Frogsmouth	Phylidraceae	Herb	
349	*Phyllanthus virgatus*		Euphorbiaceae	Herb	
350	*Phytolacca octandra*	Inkweed	Phytolaccaceae	Herb	*
351	*Pilidiostigma glabrum*	Plum Myrtle	Myrtaceae	Shrub/tree	
352	*Pimelea latifolia*	Rice Flower	Thymelaceae	Shrub	
353	*Pimelea linifolia*	Slender Rice Flower	Thymelaceae	Shrub	C RE,F
354	*Pinus elliottii*	Slash Pine	Pinaceae	Tree	*
355	*Pittosporum revolutum*	Hairy Pittosporum	Pittosporaceae	Shrub	
356	*Pittosporum undulatum*	Native Daphne	Pittosporaceae	Tree	
357	*Plantago gaudichaudii*	Plantain	Plantaginaceae	Herb	*
358	*Platycerium bifurcatum*	Elkhorn Fern	Polypodiaceae	Fern	
359	*Platycerium superbum*	Staghorn	Polypodiaceae	Fern	
360	*Plectranthus parviflorus*	Cockspur Flower	Lamiaceae	Herb	
361	*Polyscias elegans*	Celerywood	Araliaceae	Tree	
362	*Polyscias sambucifolius*	Elderberry Panax	Araliaceae	Shrub	
363	*Pothos longipes*	Pothos	Araceae	Vine	
364	*Protasparagus densiflorus*	Asparagus fern	Liliaceae	Herb	
365	*Pseuderanthemum variabile*	Love Flower	Acanthaceae	Herb	
366	*Pseudoweinmannia lachnocarpa*	Rose Marrara	Cunoniaceae	Tree	
367	*Psidium guajava*	Guava	Myrtaceae	Tree/shrub	*

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
368	*Psychotria daphnoides*	Smooth Psychotria	Rubiaceae	Shrub	
369	*Psychotria loniceroides*	Hairy Psychotria	Rubiaceae	Shrub	
370	*Pteridium esculentum*	Common Bracken	Dennstaedtiaceae	Fern	C RE,F
371	*Pultenea retusa*	Bush Pea	Fabaceae	Shrub	
372	*Pultenea villosa*	Bush Pea	Fabaceae	Shrub	C RE,F
373	*Pyrrosia confluens*	Rock Felt fern	Polypodiaceae	Fern	
374	*Pyrrosia rupestris*	Rock Felt-fern	Polypodiaceae	Fern	
375	*Quintinia verdonii*	Grey Possumwood	Escalloniaceae	Tree	
376	*Rapanea howittiana*	Brush Muttonwood	Myrsinaceae	Tree	
377	*Rapanea variabilis*	Muttonwood	Myrsinaceae	Tree	
378	*Raphiolepsis indica*	Indian Hawthorn	Rosaceae	Shrub	*
379	*Rhodamnia maideniana*	Smooth Scrub Turpentine	Myrtaceae	Tree	2RC
380	*Rhodamnia rubescens*	Scrub Turpentine	Myrtaceae	Shrub/tree	
381	*Rhodomyrtus psidioides*	Native Guava	Myrtaceae	Tree	
382	*Rhodosphaera rhodanthema*	Deep Yellow-wood	Anacardiaceae	Tree	
383	*Rhysotoechia bifoliolata*	Two-leaved Tuckeroo	Sapindaceae	Tree	
384	*Ricinus communis*	Castor Oil Plant	Euphorbiaceae	Shrub	*
385	*Ripogonum album*	White Supplejack	Smilacaceae	Vine	
386	*Ripogonum discolor*	Prickly Supplejack	Smilacaceae	Vine	
387	*Rubus hillii*	Molucca Bramble	Rosaceae	Vine	
388	*Rubus moluccanus*	Molucca Rasberry	Rosaceae	Vine	
389	*Rubus rosifolius*	Rose-leaf Bramble	Rosaceae	Vine	
390	*Sarcopteryx stipata*	Corduroy Tree	Sapindaceae	Tree	
391	*Schefflera actinophylla*	Umbrella Tree	Araliaceae	Tree	*(Nth Qld)
392	*Schinus terebinthifolius*	Qld Pepper Tree	Anacardiaceae	Tree	*
393	*Schizomeria ovata*	Crabapple	Myrtaceae	Shrub/tree	
394	*Schoenoplectus mucronatus*	Clubrush	Cyperaceae	Herb	
395	*Senecio madagascariensis*	Fireweed	Asteraceae	Herb	* P3
396	*Setaria verticilliata*	Whorled Pigeon Grass	Poaceae	Herb	*
397	*Sida cordifolia*	Flannel weed	Malvaceae	Shrub	
398	*Sida rhombifolia*	Paddys Lucerne	Malvaceae	Shrub	*
399	*Sloanea woolsii*	Yellow Carabeen	Elaeocarpaceae	Tree	
400	*Smilax australis*	Austral Sarsparilla	Smilacaceae	Vine	
401	*Smilax glycophylla*	Sweet Sarsparilla	Smilacaceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
402	*Solanum capsicoides*	Devil's Apple	Solanaceae	Shrub	*
403	*Solanum mauritianum*	Wild Tobacco	Solanaceae	Shrub/Tree	*
404	*Solanum nigrum*	Blackberry Nightshade	Solanaceae	Herb	*
405	*Solanum seaforthianum*	Climbing Nightshade	Solanaceae	Vine	
406	*Solanum stelligerum*	Star Nightshade	Solanaceae	Shrub	
407	*Sonchus oleraceus*	Milk Thistle	Asteraceae	Herb	*
408	*Spathodea campanulata*	Africa Tulip Tree	Bignoniaceae	Tree	*
409	*Sporobolus elongatus*	Slender Rats-tail Grass	Poaceae	Herb	*
410	*Sporobolus virginicus*	Salt Couch	Poaceae	Herb	
411	*Stellaria media*	Chickweed	Caryophyllaceae	Herb	*
412	*Stephania aculeata*	Prickly Snake Vine	Menispermaceae	Vine	
413	*Stephania japonica*	Snake Vine	Menispermaceae	Vine	
414	*Sterculia quadrifida*	Red-fruited Kurrajong	Sterculiaceae	Tree	
415	*Stipa pubescens*	Tall Spear grass	Poaceae	Herb	
416	*Streblus brunonianus*	Whalebone Tree	Moraceae	Tree	
417	*Stylidium graminifolium*	Trigger Plant	Stylidiaceae	Herb	C RE,F
418	*Syagrus romanzoffianum*	Cocos Palm	Arecaceae	Palm	*
419	*Syncarpia glomulifera*	Turpentine	Myrtaceae	Tree	
420	*Synoum glandulosum*	Scentless rosewood	Meliaceae	Tree	
421	*Syzygium australe*	Brush cherry	Myrtaceae	Tree	
422	*Syzygium francisii*	Giant Water Gum	Myrtaceae	Tree	
423	*Syzygium leuhmannii*	Riberry	Myrtaceae	Tree	
424	*Syzygium moorei*	Rose apple/Durobby	Myrtaceae	Tree	2VCi
425	*Syzygium oleosum*	Blue Lilly Pilly	Myrtaceae	Tree	
426	*Tabernaemontana pandacaqui*	Bannana Bush	Apocynaceae	Shrub	
427	*Tagetes erecta*	Stinking Roger	Asteraceae	Herb	*
428	*Tetrastigma nitens*	Three-leafed Water Vine	Vitaceae	Vine	
429	*Themeda triandra*	Kangaroo Grass	Poaceae	Herb	
430	*Toechima dasyrrache*	Blunt leaved Steelwood	Sapindaceae	Tree	
431	*Toechima tenax*	Toechima	Sapindaceae	Tree	
432	*Toona ciliata*	Red Cedar	Meliaceae	Tree	
433	*Trandescantia cyanea*	Native Wandering Jew	Commelinaceae	Herb	
434	*Trema tomentosa*	Poison Peach	Ulmaceae	Shrub/tree	
435	*Trichosanthes subvelutina*	Silky Cucumber	Cucurbitaceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
436	*Trifolium campestre*	Hop Clover	Fabaceae	Herb	
437	*Trifolium procumbens*	Yellow Hop Clover	Fabaceae	Herb	*
438	*Trochocarpa laurina*	Tree-heath	Epacridaceae	Shrub/tree	
439	*Trophis scandens*	Burney Vine	Moraceae	Vine	
440	*Typha orientalis*	Cumbungi	Typhaceae	Herb	
441	*Verbena bonariensis*	Purple Top	Verbenaceae	Herb	*
442	*Viola hederacea*	Native Violet	Violaceae	Herb	
443	*Wedelia trilobata*	Singapore daisy	Asteraceae	Herb	*
444	*Wikstroemea indica*	Tie-bush	Thymelaceae	Shrub	
445	*Wilkea austroqueenslandica*	Smooth Wilkea	Monimaceae	Shrub	
446	*Wilkea heugeliana*	Veiny Wilkea	Monimaceae	Shrub	
447	*Wilkea macrophylla*	Large Leaved Wilkea	Monimaceae	Shrub	
448	*Xanthorrhoea macronema*	Bottlebrush Grass tree	Xanthorrhoeaceae	Shrub	C RE
449	*Zanthoxylum brachyanthum*	Thorny Yellowwood	Rutaceae	Tree	
450	*Zieria smithii*	Sandfly Zieria	Rutaceae	Shrub	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS

EXPLANATION OF CODES

* Denotes introduced plants (some naturalised)

Nature Conservation Legislation

C = Common; R = Rare; V = Vulnerable; E = Endangered; X = Presumed extinct
RE = Restricted Plants
RE, F = Restricted plants where control is for harvesting and trade in cut flowers and foliage only

Rural Lands Protection Act (Declared Plants)

P3 = Plants whose numbers and/or distribution are to be REDUCED throughout the state
P4 = Plants which are PREVENTED FROM SPREADING from places in which they occur in the state

CURRUMBIN SPECIES LIST

Surveyed and compiled by: Jan Allen and Graham Dart
Date: November 2003-February 2004

SPECIES LIST ALPHABETICALLY BY FAMILY

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
1	Acanthaceae	*Brunoniella australis*	Blue Trumpet	Herb	
		Pseuderanthemum variabile	Love Flower	Herb	
2	Adiantaceae	*Adiantum atroviride*	Soft Maidenhair	Fern	
		Adiantum hispidulum	Rough Maidenhair	Fern	
3	Agavaceae	*Cordyline congesta*	Palm Lily	Shrub	C RE,F
		Cordyline petiolaris	Palm Lily	Shrub	
4	Anacardiaceae	*Euroschinus falcata*	Ribbonwood	Tree	
		Mangifera indica	Mango	Tree	*
		Rhodosphaera rhodanthema	Deep Yellow-wood	Tree	
		Schinus terebinthifolius	Qld Pepper Tree	Tree	*
5	Annonaceae	*Meiogyne stenopetela*	Fissistigma	Shrub/tree	
		Melodorum leichhardtii	Zig Zag Vine	Vine	
6	Anthericaceae	*Laxmannia gracilis*	Wire Lily	Herb	
7	Apiaceae	*Centella asiatica*	Gotu Kola	Herb	
8	Apocynaceae	*Alyxia ruscifolia*	Prickly alixia	Shrub	
		Carissa ovata	Carissa	Shrub	
		Ervatamia angustisepala	Bannana Bush	Shrub	
		Hymenosporum flavum	Native Frangipani	Tree	
		Melodinus australis	Southern Melodinus	Vine	
		Parsonsia straminea	Common Silkpod	Vine	
		Tabernaemontana pandacaqui	Bannana Bush	Shrub	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
9	Araceae	*Alocasia brisbaniensis*	Cunjevoi	Herb	
		Alocasia sp	Elephant Ears	Herb	*
		Gymnostachys anceps	Settler's Flax	Herb	
		Pothos longipes	Pothos	Vine	
10	Araliaceae	*Polyscias elegans*	Celerywood	Tree	
		Polyscias sambucifolius	Elderberry Panax	Shrub	
		Schefflera actinophylla	Umbrella Tree	Tree	*(Nth Qld)
11	Araucariaceae	*Araucaria cunninghamii*	Hoop Pine	Tree	
12	Arecaceae	*Archontophoenix cunninghamiana*	Bangalow Palm	Palm	
		Calamus muelleri	Lawyer Vine	Palm	
		Livistona australis	Cabbage Palm	Palm	
		Syagrus romanzoffianum	Cocos Palm	Palm	*
13	Aristolochiaceae	*Pararistolochia praevenosa*	Richmond Birdwing vine	Vine	R
14	Asclepidaceae	*Asclepias curassavica*	Redhead cotton bush	Shrub	*
		Asclepias physocarpus	Balloon cotton bush	Shrub	*
		Marsdenia coronata	Marsdenia	Vine	V
15	Aspleniaceae	*Asplenium australasicum*	Bird's Nest Fern	Fern	C RE
16	Asteraceae	*Ageratina adenophora*	Crofton Weed	Herb/shrub	* P3
		Ageratina riparia	Mist Weed	Herb/shrub	* P3
		Ageratum conyzoides	Billygoat Plant	Herb	*
		Ambrosia artemisiifolia	Annual Ragweed	Herb	P3 *
		Baccharis halimifolia	Groundsel	Shrub	* P3, P4
		Bidens pilosa	Cobblers Pegs	Herb	*
		Cassinia subtropica	Cassinia	Shrub	
		Chrysanthemoides monilifera	Bitou Bush	Shrub	* P2
		Chrysocephalum apiculatum	Yellow Buttons	Herb	
		Cirsium vulgare	Spear Thistle	Herb	*
		Cotula coronopifolia	Water Buttons	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Asteraceae	*Eclipta prostrata*	Eclipta	Herb	*
		Erechtites valerianlifolia	Brazilian Fireweed	Herb	*
		Gnaphalium sp. ind.	Cudweed	Herb	*
		Helichrysum diosmifolium	Sago Flower	Shrub	
		Helichrysum ramosissimum	Yellow buttons	Herb	
		Hypochoeris radicata	Flatweed	Herb	*
		Olearia nernstii	Snow Bush	Shrub	
		Ozothamnus diosmifolius	Sago Flower	Shrub	C RE,F
		Peripleura hispidula		Herb	
		Senecio madagascariensis	Fireweed	Herb	* P3
		Sonchus oleraceus	Milk Thistle	Herb	*
		Tagetes erecta	Stinking Roger	Herb	*
17	Avicenniaceae	*Avicennia marina*	Grey Mangrove	Tree	
18	Bignoniaceae	*Jacaranda mimosaifolia*	Jacaranda	Tree	*
		Macfadyena unguis-cati	Cat's Claw Creeper	Vine	*
		Pandorea jasminoides	Bower of Beauty	Vine	
		Pandorea pandorana	Wonga Vine	Vine	
		Spathodea campanulata	Africa Tulip Tree	Tree	*
19	Blechnaceae	*Blechnum cartilagineum*	Gristle Fern	Fern	C RE,F
		Blechnum indicum	Water Fern	Fern	C RE,F
		Doodia aspera	Prickly Rasp Fern	Fern	
		Doodia caudata	Small Rasp Fern	Fern	
		Doodia media	Common Rasp Fern	Fern	
20	Caesalpiniaceae	*Caesalpinia subtropica*	Corky Prickle Vine	Vine	
		Cassia bicapsularis	Yellow Senna	Shrub	*
		Cassia brewsteri var marksiana	Brush Cassia	Tree	RC
		Cassia coluteoides	Winter Senna	Shrub	*
		Cassia floribunda	Smooth Cassia	Shrub	
		Delonix regia	Flame Tree	Tree	*

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
21	Campanulaceae	*Lobelia gibbosa*		Herb	
		Lobelia purpurascens	White Root	Herb	
		Lobelia trigonocaulis	Forest Lobelia	Herb	
22	Capparaceae	*Capparis arborea*	Brush Caper Berry	Vine	
23	Caryophyllaceae	*Drymaria cordata*	Tropical Chickweed	Herb	
		Stellaria media	Chickweed	Herb	
24	Casuarinaceae	*Allocasuarina littoralis*	Black She-oak	Tree	C RE,F
		Allocasuarina torulosa	Forest Sheoak	Tree	
		Casuarina cunninghamiana	River Oak	Tree	
		Casuarina glauca	Swamp Sheoak	Tree	
25	Celastraceae	*Celastrus australis*	Staff vine	Vine	
		Celastrus subspicata	Large leaf Staff Vine	Vine	
		Denhamia celastroides	Denhamia	Tree	
		Elaeodendron australe	Red Olive Plum	Tree	
		Hedraianthera porphyropetala	Hedraianthera	Shrub	
		Maytenus disperma	Orange Bush	Tree/shrub	
		Maytenus silvestris	Narrow-leaf Orangebark	Shrub	C RE,F
26	Commelinaceae	*Aneilema acuminatum*	Native Wandering Jew	Herb	
		Commelina cyanea	Wandering Jew	Herb	*
		Murdannia graminea	Slug Herb	Herb	
		Trandescantia cyanea	Native Wandering Jew	Herb	
27	Convolvulaceae	*Ipomea cairica*	Five-leaf Morning glory	Vine	*
		Ipomea purpurea	Morning glory	Vine	*
		Kreysigia multiflora	Sarsparilla Lily	Herb	
28	Cucurbitaceae	*Trichosanthes subvelutina*	Silky Cucumber	Vine	
29	Cunoniaceae	*Caldcluvia paniculosa*	Soft Corkwood	Tree	
		Pseudoweinmannia lachnocarpa	Rose Marrara	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
30	Cyatheaceae	*Cyathea cooperi*	Rough Tree fern	Fern	
31	Cyperaceae	*Baumea articulata*	Jointed Twigrush	Herb	
		Cyperus brevifolius	Mullumbimby Couch	Herb	*
		Cyperus polystachyos	Bunchy Sedge	Herb	
		Cyperus sp ind	a sedge	Herb	
		Eleocharis equisetina	Spike Rush	Herb	
		Exocarya scleroidies	A sedge	Herb	
		Fimbristylis dichotoma	Common Fringe-rush	Herb	
		Gahnia aspera	Sword Grass	Herb	
		Lepidosperma laterale	Variable Sword-sedge	Herb	
		Lepironia articulata	Giant Sedge	Herb	
		Schoenoplectus mucronatus	Clubrush	Herb	
32	Davalliaceae	*Davallia pyxidata*	Hare's Foot fern	Fern	C RE
33	Dennstaedtiaceae	*Hypolepis muelleri*	Harsh Ground-fern	Fern	
		Pteridium esculentum	Common Bracken	Fern	C RE,F
34	Dicksoniaceae	*Calochlaena dubia (syn Culcita dubia)*	False Bracken	Fern	C RE,F
35	Dilleniaceae	*Hibbertia aspera*	Hibbertia	Shrub	
		Hibbertia dentata	Trailing guinea flower	Vine	
		Hibbertia stricta	a guinea flower	Shrub	
		Hibbertia vestita	Small-leaf Guinea Bush	Shrub	
36	Dioscoreaceae	*Dioscorea transversa*	Native Yam	Vine	
37	Ebenaceae	*Diospyros australis*	Black Plum	Tree	
		Diospyros fasciculosa	Grey Ebony	Tree	
		Diospyros pentamera	Grey Persimmon	Tree	
		Diploglottis australis	Native Tamarind	Tree	
38	Elaeocarpaceae	*Elaeocarpus grandis*	Blue Quandong	Tree	
		Elaeocarpus obovatus	Hard Quandong	Tree	
		Elaeocarpus reticulatus	Blueberry Ash	Tree	
		Sloanea woolsii	Yellow Carabeen	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
39	Epacridaceae	*Leucopogon juniperinus*	Prickly Heath	Shrub	
		Trochocarpa laurina	Tree-heath	Shrub	
40	Escalloniaceae	*Quintinia verdonii*	Grey Possumwood	Tree	
41	Euphorbiaceae	*Alchornea ilicifolia*	Native Holly	Shrub/tree	
		Baloghia inophylla	Scrub Bloodwood	Tree	
		Breynia oblongifolia	Coffee Bush	Shrub	
		Bridelia exaltata	Brush Ironbark	Tree	
		Claoxylon australe	Brittlewood	Shrub/tree	
		Cleistanthus cunninghamii	Omega	Tree	
		Croton insularis	Silver Croton	Shrub	
		Croton verreauxii	Native Carscarilla	Shrub	
		Dissilaria baloghoides	Hauer	Tree	
		Drypetes deplanchei	Yellow Tulip	Tree	
		Glochidion ferdinandi	Cheese tree	Tree	
		Glochidion sumatranum	Umbrella Cheese Tree	Tree	
		Macaranga tanarius	Macaranga	Tree	
		Mallotus claoxyloides	Green Kamala	Tree	
		Mallotus philippensis	Red Kamala	Tree/shrub	
		Omalanthus nutans	Bleeding Heart	Shrub/tree	
		Petalostigma triloculare	Quinine Bush	Shrub	
		Phyllanthus virgatus		Herb	
		Ricinus communis	Castor Oil Plant	Shrub	*
42	Fabaceae	*Austrotoensia blackii*	Blood Vine	Vine	
		Callerya australis	Blunt Leaved Wisteria	Vine	3RC
		Callerya megasperma	Native Wisteria	Vine	
		Castanospermum australe	Blackbean	Tree	
		Crotalaria incana	Crotalaria	Herb	
		Daviesia arborea	Bitter Pea	Tree	
		Derris involuta	Native Derris	Vine	
		Desmodium gunnii	Tick-trefoil	Shrub	
		Desmodium ryhtidophyllum	Rusty Tick-trefoil	Shrub	
		Desmodium uncinatum	Tick-trefoil	Shrub	
		Erythrina vespertilio	Bats Wing Coral Tree	Tree	
	Fabaceae	*Erythrina x hybrida*	Coral Tree	Tree	*

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
		Glycine clandestina	Glycine	Herb	
		Glycine tabacina	Glycine Pea	Herb	
		Hardenbergia violacea	Native Sarsparilla	Vine	C RE, F
		Hovea acutifolia	Purple Pea Bush	Shrub	
		Jacksonia scoparia	Dogwood	Shrub	C RE,F
		Kennedia rubicunda	Kennedy Pea	Vine	
		Neonotonia wightii	Glycine	Shrub/vine	*
		Pultenea retusa	Bush Pea	Shrub	
		Pultenea villosa	Bush Pea	Shrub	C, REF
		Trifolium campestre	Hop Clover	Herb	
		Trifolium procumbens	Yellow Hop Clover	Herb	*
43	Flagellariaceae	*Flagellaria indica*	Whip Vine	Vine	
44	Gleicheniaceae	*Gleichenia dicarpa*	Tangle Fern	Fern	C RE,F
45	Goodeniaceae	*Goodenia rotundifolia*	Goodenia	Herb	
46	Haloragaceae	*Myriophyllum crispatum*	Water Milfoil	Herb	
47	Iridaceae	*Patersonia glabrata*	Native Iris	Herb	
48	Juncaceae	*Juncus polyanthemus*	A rush	Herb	
		Juncus usitatus	Common rush	Herb	
49	Lamiaceae	*Plectranthus parviflorus*	Cockspur Flower	Herb	
50	Lauraceae	*Beilschmeidia elliptica*	Grey Walnut	Tree	
		Cassytha filiformis	Dodder	Vine	
		Cinnamomum camphora	Camphor Laurel	Tree	*
		Cinnamomum oliveri	Oliver's Sassafras	Tree	
		Cryptocarya glaucesens	Jackwood	Tree	
		Cryptocarya laevigata var bowei	Glossy Laurel	Shrub	
		Cryptocarya microneura	Murrogun/Brown Jack	Tree	
		Cryptocarya obovata	Pepperberry	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Lauraceae	*Cryptocarya rigida*	Forest/Rose Maple	Shrub/tree	
		Cryptocarya triplinervis	Brown Laurel	Shrub/tree	
		Endiandra discolor	Rose Walnut	Tree	
		Endiandra globosa	Black Walnut	Tree	2RC
		Endiandra hayseii	Velvet Laurel	Tree	3VC
		Endiandra muelleri	Green leaved Rose Walnut	Tree	
		Endiandra pubens	Hairy Walnut	Tree	
		Litsea reticulata	Bolly gum	Tree	
		Neolitsea dealbata	White Bolly gum	Tree	
		Persea gratissima	Avocado	Tree	*
51	Liliaceae	*Dianella caerulea.*	Flax Lily	Herb	
		Dianella longifolia	Long leaved Flax Lily	Herb	
		Dianella revoluta var revoluta	Flax Lily	Herb	
		Protasparagus densiflorus	Asparagus fern	Herb	
52	Lindsaeaceae	*Lindsaea linearis*	Wedge Fern	Fern	
		Lindsaea microphylla	Lacy Wedge Fern	Fern	
53	Lythraceae	*Lagerstroemia indica*	Crepe Myrtle	Tree	*
54	Malvaceae	*Hibiscus heterophyllus*	Native Rosella	Shrub	
		Sida cordifolia	Flannel weed	Shrub	
		Sida rhombifolia	Paddys Lucerne	Shrub	*
55	Meliaceae	*Dysoxylum muelleri*	Red Bean	Tree	
		Dysoxylum rufrum	Hairy Rosewood	Tree	
		Melia azederach	White Cedar	Tree	
		Synoum glandulosum	Scentless rosewood	Tree	
		Toona ciliata	Red Cedar	Tree	
56	Menispermaceae	*Stephania aculeata*	Prickly Snake Vine	Vine	
		Stephania japonica	Snake Vine	Vine	
57	Menyanthaceae	*Nymphoides indica*	Water Snowflake	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
58	Mimosaceae	*Acacia bakeri*	Marblewood	Tree	
		Acacia disparrima	Hickory Wattle	Tree	
		Acacia falcata	Wattle	Shrub/tree	
		Acacia fimbriata	Fringed Wattle	Shrub/tree	C RE,F
		Acacia implexa	Lightwood	Shrub	C RE,F
		Acacia leiocalyx	Cunningham's Wattle	Shrub/tree	
		Acacia longissima	Wattle	Shrub/tree	
		Acacia maidenii	Maidens Wattle	Shrub/tree	
		Acacia melanoxylon	Black Wattle	Tree	
		Acacia podalyriifolia	Qld Silver Wattle	Shrub	
		Archidendron grandiflorum	Pink Laceflower	Tree	
59	Monimaceae	*Wilkea austroqueenslandica*	Smooth Wilkea	Shrub	
		Wilkea heugeliana	Veiny Wilkea	Shrub	
		Wilkea macrophylla	Large Leaved Wilkea	Shrub	
60	Moraceae	*Ficus benjamina*	Weeping Fig	Tree	
		Ficus coronata	Creek Sandpaper Fig	Tree	
		Ficus hillii	Hill's Fig	Tree	
		Ficus macrophylla	Moreton Bay Fig	Tree	
		Ficus platypoda	Rock Fig	Tree	
		Maclura cochinchinensis	Cockspur Thorn	Shrub/vine	
		Morus rubra	Black Mulberry	Tree	*
		Streblus brunonianus	Whalebone Tree	Tree	
		Trophis scandens	Burney Vine	Vine	
61	Myrsinaceae	*Embelia australiana*	Embelia	Vine	
		Rapanea howittiana	Brush Muttonwood	Tree	
		Rapanea variabilis	Muttonwood	Tree	
62	Myrtaceae	*Acmena smithii*	Creek Lilly Pilly	Shrub/tree	
		Angophora leiocarpa	Smooth Barked Apple	Tree	
		Archirhodomyrtus beckleri	Rose Myrtle	Shrub/tree	
		Austromyrtus dulcis	Midyim	Shrub	
		Austromyrtus hillii	Scaly Myrtle	Shrub/tree	
		Babingtonia similis (syn. Baeckea virgata)	Twiggy Baeckea	Shrub	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Myrtaceae	*Backhousia myrtifolia*	Weeping Myrtle	Tree	
		Callistemon salignus	White Bottlebrush	Tree	C RE,F
		Callistemon viminalis	Weeping Bottlebrush	Shrub/tree	C RE,F
		Corymbia citriodora	Spotted Gum	Tree	
		Corymbia gummifera	Red Bloodwood	Tree	
		Corymbia intermedia	Pink Bloodwood	Tree	
		Eucalyptus acmenoides	White Mahogany	Tree	
		Eucalyptus carnea	Broad leaved White Mahogan	Tree	
		Eucalyptus crebra	Narrow leaf Ironbark	Tree	
		Eucalyptus grandis	Flooded gum	Tree	
		Eucalyptus microcorys	Tallowwood	Tree	C, REF
		Eucalyptus pilularis	Blackbutt	Tree	C, REF
		Eucalyptus propinqua	Grey Gum	Tree	C RE, F
		Eucalyptus resinifera	Red Mahogany	Tree	
		Eucalyptus siderophloia	Qld Grey Ironbark	Tree	
		Eucalyptus tereticornis	Forest Red Gum	Tree	
		Eucalyptus tindaliae	Q White Stringybark	Tree	
		Eucalyptus torelliana	Cadagai	Tree	* Nth Q
		Eugenia uniflora	Brazil Cherry	Shrub	*
		Leptospermum polygalifolium	Wild May	Shrub	C RE,F
		Lophostemon confertus	Brush Box	Tree	C RE,F
		Lophostemon suavolens	Swamp Brush Box	Tree	
		Melaleuca linariifolia	Flax Leaf Paperbark	Tree	C RE,F
		Melaleuca quinquenervia	Broad leaved Paperbark	Tree	
		Pilidiostigma glabrum	Plum Myrtle	Shrub/tree	
		Psidium guajava	Guava	Tree/shrub	*
		Rhodamnia maideniana	Smooth Scrub Turpentine	Tree	2RC
		Rhodamnia rubescens	Scrub Turpentine	Shrub/tree	
		Rhodomyrtus psidioides	Native Guava	Tree	
		Schizomeria ovata	Crabapple	Shrub/tree	
		Syncarpia glomulifera	Turpentine	Tree	
		Syzygium australe	Brush cherry	Tree	
		Syzygium francisii	Giant Water Gum	Tree	
		Syzygium leuhmannii	Riberry	Tree	
		Syzygium moorei	Rose apple/Durobby	Tree	2VCi
		Syzygium oleosum	Blue Lilly Pilly	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
63	Nephrolepidaceae	*Arthopteris tenella*		Fern	
		Nephrolepsis cordifolia	Fishbone fern	Fern	*
64	Nymphaeaceae	*Nymphaea caerulea*	Blue Water lily	Herb	*
		Nymphaea capensis	Cape Water Lily	Herb	*
65	Ochnaceae	*Ochna atropurpurea*	Mickey Mouse Plant	Shrub	*
66	Oleaceae	*Ligustrum lucidum*	Large Leaf Privet	Shrub	*
		Ligustrum sinense	Small Leaf Privet	Shrub	*
		Notelaea johnsonii	Veinless Mock Olive	Tree/shrub	
		Notelaea longifolia	Large Mock Olive	Tree/shrub	
		Notelaea ovata	Mock Olive	Tree/shrub	
		Olea paniculata	Native Olive	Tree	
67	Onagraceae	*Ludwidgia octovalvis*	Willow Primrose	Shrub	
		Ludwidgia peploides	Water Primrose	Herb	*
68	Orchidaceae	*Cymbidium sp ind.*		Herb	C RE
69	Passifloraceae	*Passiflora aurantia*	Blunt leaf Passionfruit	Vine	*
		Passiflora edulis	Black Passionfruit	Vine	*
		Passiflora suberosa	Corky passionflower	Vine	*
		Passiflora subpeltata	White Passionfruit	Vine	*
70	Peperomiaceae	*Peperomia leptostachya*	Native Peperomia	Herb	
71	Philesiaceae	*Eustrephus latifolius*	Wombat Berry	Herb	
		Geitonoplesium cymosum	Scrambling Lily	Herb	
72	Phylidraceae	*Phylidrum languinosum*	Woolly Frogsmouth	Herb	
73	Phytolaccaceae	*Phytolacca octandra*	Inkweed	Herb	*
74	Pinaceae	*Pinus elliottii*	Slash Pine	Tree	*
75	Pittosporaceae	*Billardiera scandens var. sericata*	Common Apple-Berry	Vine	

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		Bursaria spinosa	Prickly Pine	Shrub	C RE,F
		Citriobatus pauciflorus	Orange Thorn	Shrub	
		Pittosporum revolutum	Hairy Pittosporum	Shrub	
		Pittosporum undulatum	Native Daphne	Tree	
76	Plantaginaceae	*Plantago gaudichaudii*	Plantain	Herb	*
77	Poaceae	*Andropogon virginicus*	Whiskey Grass	Herb	*
		Axonopus affinis	Carpet grass	Herb	*
		Brachiaria mutica	Para grass	Herb	*
		Bromus uniloides	Prairie Grass	Herb	
		Chloris gayana	Rhodes Grass	Herb	*
		Cymbopogon refractus	Barbed Wire Grass	Herb	
		Cynodon dactylon	Couch	Herb	
		Digitaria didactyla	Blue Couch	Herb	
		Entolasia stricta	Wiry Panic	Herb	
		Eragrostis tenuifolia	Elastic Grass	Herb	
		Imperata cylindrica var *major*	Blady Grass	Herb	
		Microlaena stipoides	Weeping Grass	Herb	
		Oplismenus aemulus	Oplismensus	Herb	
		Ottochloa gracillima	Ottochloa	Herb	
		Panicum maximum	Guinea Grass	Herb	*
		Panicum pygmaeum	Feather Grass, Dwarf Panic	Herb	*
		Paspalum dilatatum	Paspalum	Herb	*
		Paspalum distichum	Water Couch	Herb	
		Pennisetum clandestinum	Kikuyu Grass	Herb	*
		Phragmites australis	Common Reed	Herb	
		Setaria verticilliata	Whorled Pigeon Grass	Herb	*
		Sporobolus elongatus	Slender Rats-tail Grass	Herb	*
		Sporobolus virginicus	Salt Couch	Herb	
		Stipa pubescens	Tall Spear grass	Herb	
		Themeda triandra	Kangaroo Grass	Herb	

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78	Polygonaceae	*Persicaria decipiens*	Slender Knotweed	Herb	
79	Polypodiaceae	*Platycerium bifurcatum*	Elkhorn Fern	Fern	
		Platycerium superbum	Staghorn	Fern	
		Pyrrosia confluens	Rock Felt fern	Fern	
		Pyrrosia rupestris	Rock Felt-fern	Fern	
80	Proteaceae	*Grevillea robusta*	Silky Oak	Tree	
		Hakea florulenta	Hakea	Shrub	
		Helicia ferruginea	Rusty Helicia	Tree	3RC
		Lomatia silaifolia	Crinkle Bush	Shrub	C RE, F
		Persoonia cornifolia	Broad leaved Geebung	Shrub	
		Persoonia tenuifoila	Fine leaf Geebung	Shrub	
81	Rhamnaceae	*Alphitonia excelsa*	Red Ash	Tree	
82	Rosaceae	*Eriobotrya japonica*	Loquat	Tree	*
		Raphiolepsis indica	Indian Hawthorn	Shrub	*
		Rubus hillii	Molucca Bramble	Vine	
		Rubus moluccanus	Molucca Rasberry	Vine	
		Rubus rosifolius	Rose-leaf Bramble	Vine	
83	Rubiaceae	*Atractocarpus chartaceus*	Narrow leafed Gardenia	Shrub	
		Canthium buxifolium	Stiff Canthium	Shrub	
		Morinda jasminoides	Morinda	Shrub/vine	
		Psychotria daphnoides	Smooth Psychotria	Shrub	
		Psychotria loniceroides	Hairy Psychotria	Shrub	
84	Rutaceae	*Acronychia laevis*	Glossy Acronychia	Shrub/tree	
		Bosistoa pentacocca	Fern leaf Bosistoa	Tree	
		Citrus limon	Lemon tree	Tree/shrub	*
		Flindersia australis	Teak	Tree	
		Flindersia bennettiana	Bennet's Ash	Tree	
		Flindersia schottiana	Cudgerie	Tree	
		Flindersia xanthoxyla	Yellow wood	Tree	
		Medicosma cunninghamii	Pinkheart	Shrub/tree	

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	Rutaceae	*Melicope elleryana*	Pink Euodia	Tree	
		Pentaceras australis	Penta Ash	Tree	
		Zanthoxylum brachyanthum	Thorny Yellowwood	Tree	
		Zieria smithii	Sandfly Zieria	Shrub	
85	Sapindaceae	*Alectryon subcinerius*	Birds Eye	Tree	
		Alectryon tomentosus	Hairy Aletryon	Tree	
		Arytera divaricata	Coogera/Rose Tamarind	Tree	
		Atalaya multiflora	Broad Leaved Whitewood	Tree	
		Castanospora alphandii	Brown Tamarind	Tree	
		Cupaniopsis anacardioides	Tuckeroo	Tree	
		Cupaniopsis newmanii	Long leaf Tuckeroo	Tree	2RC
		Cupaniopsis parvifolia	Small leaf Tuckeroo	Tree	
		Cupaniopsis serrata	Smooth Tuckeroo	Tree	
		Dodonea triquetra	Native Hops Bush	Shrub	
		Elattostachys nervosa	Beetroot	Tree	
		Guioa semiglauca	Guioa	Tree	
		Harpulia pendula	tulipwood	Tree	
		Jagera pseudorhus	Foambark	Tree	
		Koelreuteria panniculata	Golden Rain Tree	Tree	*
		Lepiderema pulchella	Fine leaf Tuckeroo	Tree	2RC
		Mischocarpus anodontus	Veiny Pear-fruit	Tree	
		Mischocarpus pyriformis	Woolly Pear-fruit	Tree	
		Rhysotoechia bifoliolata	Two-leaved Tuckeroo	Tree	
		Sarcopteryx stipata	Corduroy Tree	Tree	
		Toechima dasyrrache	Blunt leaved Steelwood	Tree	
		Toechima tenax	Toechima	Tree	
86	Schizeaeceae	*Cheilanthes sieberi*	Mulga Fern	Fern	
87	Smilacaceae	*Ripogonum album*	White Supplejack	Vine	
		Ripogonum discolor	Prickly Supplejack	Vine	
		Smilax australis	Austral Sarsparilla	Vine	
		Smilax glycophylla	Sweet Sarsparilla	Vine	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
88	Solanaceae	*Solanum capsicoides*	Devil's Apple	Shrub	*
		Solanum mauritianum	Wild Tobacco	Shrub/Tree	*
		Solanum nigrum	Blackberry Nightshade	Herb	*
		Solanum seaforthianum	Climbing Nightshade	Vine	
		Solanum stelligerum	Star Nightshade	Shrub	
89	Sterculiaceae	*Argyrodendron actinophyllum*	Black Booyong	Tree	
		Brachychiton acerifolium	Flame Tree	Tree	
		Brachychiton populneus	Kurrajong	Tree	
		Commersonia bartramia	Brown Kurrajong	Tree	
		Sterculia quadrifida	Red-fruited Kurrajong	Tree	
90	Stylidiaceae	*Stylidium graminifolium*	Trigger Plant	Herb	C RE,F
91	Thelypteridaceae	*Christella dentata*	Binung	Fern	
92	Thymelaceae	*Pimelea latifolia*	Rice Flower	Shrub	
		Pimelea linifolia	Slender Rice Flower	Shrub	C RE,F
		Wikstroemea indica	Tie-bush	Shrub	
93	Tiliaceae	*Grewia latifolia*	Dogs Balls	Shrub	
94	Typhaceae	*Typha orientalis*	Cumbungi	Herb	
95	Ulmaceae	*Aphananthe phillipensis*	Rough Elm	Shrub/tree	
		Celtis sinensis	Chinese Celtis	Tree	*
		Trema tomentosa	Poison Peach	Shrub/tree	
96	Verbenaceae	*Callicarpa pedunculata*	Velvet Leaf	Shrub	
		Clerodendrum foribundum	Lolly Bush	Shrub/tree	
		Lantana camara	Lantana	Shrub	*
		Lantana montevidensis	Purple Lantana	Shrub	*
		Verbena bonariensis	Purple Top	Herb	*
97	Violaceae	*Hybanthus enneaspermus*	Spade Flower	Herb	
		Viola hederacea	Native Violet	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
98	Vitaceae	*Cayratia acris*	Hairy Water Vine	Vine	
		Cayratia clematidea	Slender Grape	Climber	
		Cissus antarctica	Water Vine	Vine	
		Cissus hypoglauca	Five leaf Water Vine	Vine	
		Cissus opaca	Small leaf Water Vine	Vine	
		Tetrastigma nitens	Three-leafed Water Vine	Vine	
99	Xanthorrhoeaceae	*Lomandra filiformis*	Forest Matrush	Herb	
		Lomandra hystrix	Creek Matrush	Herb	
		Lomandra longifolia	Common Mat rush	Herb	
		Lomandra multiflora	Many flowered Matrush	Herb	C RE, F
		Xanthorrhoea macronema	Bottlebrush Grass tree	Shrub	C RE
100	Zingiberaceae	*Alpinea arundelliana*	Small Native Ginger	Herb	
		Alpinea caerulea	Native Ginger	Herb	

EXPLANATION OF CODES

* Denotes introduced plants (some naturalised)

Nature Conservation Legislation

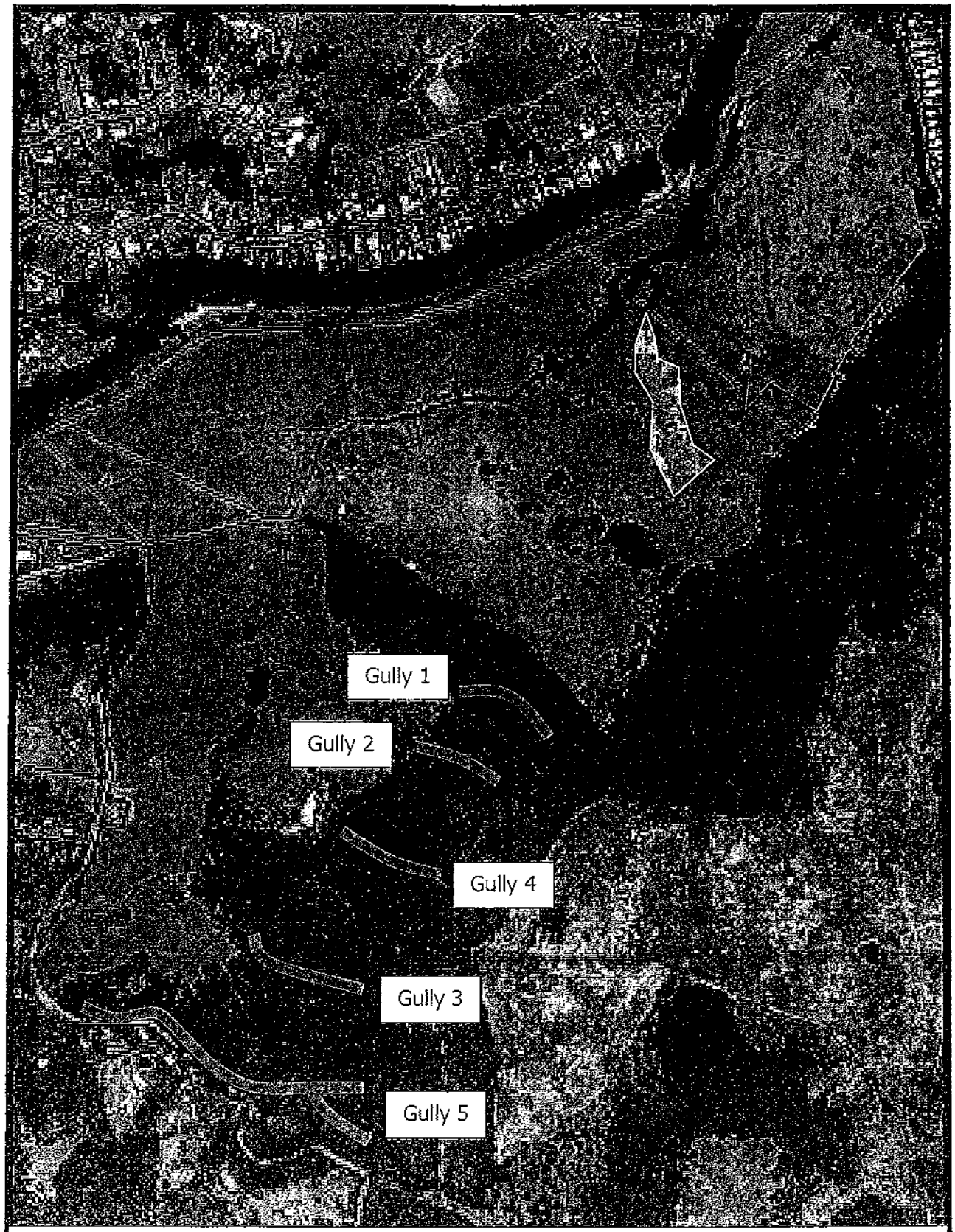
C = Common; R = Rare; V = Vulnerable; E = Endangered; X = Presumed extinct
RE = Restricted Plants
RE, F = Restricted plants where control is for harvesting and trade in cut flowers and foliage only

Rural Lands Protection Act (Declared Plants)

P3 = Plants whose numbers and/or distribution are to be REDUCED throughout the state
P4 = Plants which are PREVENTED FROM SPREADING from places in which they occur in the state

ATTACHMENT 5

SPECIFIC VEGETATION SURVEY AREAS



SEPARATELY DESCRIBED AREAS

Area 1

Area 2

*Approximate boundaries

ATTACHMENT 6

FAUNA SURVEY LOCATION MAPPING

ATTACHMENT 7

DISTURBANCE CRITERIA

Level of Disturbance	Classification Criteria
Low	1. High relative abundance and richness of native species typical to the community type present; and 2. Discernable vegetation strata typical to the community type present (Specht, 1981); and 3. Displays features typical of a mature community (Jacobs, 1995. i.e. senescent trees, emergent trees etc); and 4. No/insignificant presence of introduced species within one or more stratum (<5% cover within relevant strata [GCCCNCS, 1998]); and 5. No/insignificant (<5% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing)
Medium	1. Reduced relative abundance and richness of native species typical to the community type present; 2. Strata typical to the vegetation community discernable but not homogeneous; 3. Few features typical of mature community present; 4. Minor-moderate presence of introduced species within one or more stratum (5-20% cover within relevant strata [GCCCNCS, 1998]); 5. Minor-moderate measurable (5-20% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing)
High	1. Significantly reduced relative abundance and richness of native species typical to the community type present; or 2. One or more strata typical to the vegetation community absent or significantly modified (>30% modified (Ecograph, 2001); or 3. Typical features of mature community absent or isolated. High proportion of immature individuals present; or 4. Common presence of introduced species within one or more stratum (>20% cover within relevant strata [GCCNCS, 1998]); or 5. Common measurable (>20% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing).

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
28	*Alyxia ruscifolia*	Prickly alixia	Apocynaceae	Shrub	
29	*Ambrosia artemisiifolia*	Annual Ragweed	Asteraceae	Herb	P3 *
30	*Andropogon virginicus*	Whiskey Grass	Poaceae	Herb	*
31	*Aneilema acuminatum*	Native Wandering Jew	Commelinaceae	Herb	
32	*Angophora leiocarpa*	Smooth Barked Apple	Myrtaceae	Tree	
33	*Aphananthe phillipensis*	Rough Elm	Ulmaceae	Shrub/tree	
34	*Araucaria cunninghamii*	Hoop Pine	Araucariaceae	Tree	
35	*Archidendron grandiflorum*	Pink Laceflower	Mimosaceae	Tree	
36	*Archirhodomyrtus beckleri*	Rose Myrtle	Myrtaceae	Shrub/tree	
37	*Archontophoenix cunninghamiana*	Bangalow Palm	Arecaceae	Palm	
38	*Argyrodendron actinophyllum*	Black Booyong	Sterculiaceae	Tree	
39	*Arthopteris tenella*		Nephrolepidaceae	Fern	
40	*Arytera divaricata*	Coogera/Rose Tamarind	Sapindaceae	Tree	
41	*Asclepias curassavica*	Redhead cotton bush	Asclepidaceae	Shrub	*
42	*Asclepias physocarpus*	Balloon cotton bush	Asclepidaceae	Shrub	*
43	*Asplenium australasicum*	Bird's Nest Fern	Aspleniaceae	Fern	C RE
44	*Atalaya multiflora*	Broad Leaved Whitewood	Sapindaceae	Tree	
45	*Atractocarpus chartaceus*	Narrow leafed Gardenia	Rubiaceae	Shrub	
46	*Austromyrtus dulcis*	Midyim	Myrtaceae	Shrub	
47	*Austromyrtus hillii*	Scaly Myrtle	Myrtaceae	Shrub/tree	
48	*Austroteensia blackii*	Blood Vine	Fabaceae	Vine	
49	*Avicennia marina*	Grey Mangrove	Avicenniaceae	Tree/shrub	
50	*Axonopus affinis*	Carpet grass	Poaceae	Herb	*
51	*Babingtonia similis (syn. Baeckea virgata)*	Twiggy Baeckea	Myrtaceae	Shrub	
52	*Baccharis halimifolia*	Groundsel	Asteraceae	Shrub	* P3, P4
53	*Backhousia myrtifolia*	Weeping Myrtle	Mrytaceae	Tree	
54	*Baloghia inophylla*	Scrub Bloodwood	Euphorbiaceae	Tree	
55	*Baumea articulata*	Jointed Twigrush	Cyperaceae	Herb	
56	*Beilschmeidia elliptica*	Grey Walnut	Lauraceae	Tree	
57	*Bidens pilosa*	Cobblers Pegs	Asteraceae	Herb	*
58	*Billardiera scandens var. sericata*	Common Apple-Berry	Pittosporaceae	Vine	
59	*Blechnum cartilagineum*	Gristle Fern	Blechnaceae	Fern	C RE,F
60	*Blechnum indicum*	Water Fern	Blechnaceae	Fern	C RE,F
61	*Bosistoa pentacocca*	Fern leaf Bosistoa	Rutaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
62	*Brachiaria mutica*	Para grass	Poaceae	Herb	*
63	*Brachychiton acerifolium*	Flame Tree	Sterculiaceae	Tree	
64	*Brachychiton populneus*	Kurrajong	Sterculiaceae	Tree	
65	*Breynia oblongifolia*	Coffee Bush	Euphorbiaceae	Shrub	
66	*Bridelia exaltata*	Brush Ironbark	Euphorbiaceae	Tree	
67	*Bromus uniloides*	Prairie Grass	Poaceae	Herb	
68	*Brunoniella australis*	Blue Trumpet	Acanthaceae	Herb	
69	*Bursaria spinosa*	Prickly Pine	Pittosporaceae	Shrub	C RE,F
70	*Caesalpinia subtropica*	Corky Prickle Vine	Caesalpiniaceae	Vine	
71	*Calamus muelleri*	Lawyer Vine	Arecaceae	Palm	
72	*Caldcluvia paniculosa*	Soft Corkwood	Cunoniaceae	Tree	
73	*Callerya australis*	Blunt Leaved Wisteria	Fabaceae	Vine	3RC
74	*Callerya megasperma*	Native Wisteria	Fabaceae	Vine	
75	*Callicarpa pedunculata*	Velvet Leaf	Verbenaceae	Shrub	
76	*Callistemon salignus*	White Bottlebrush	Myrtaceae	Tree	C RE,F
77	*Callistemon viminalis*	Weeping Bottlebrush	Myrtaceae	Shrub/tree	C RE,F
78	*Calochlaena dubia*	False Bracken	Dicksoniaceae	Fern	C RE,F
79	*Canthium buxifolium*	Stiff Canthium	Rubiaceae	Shrub	
80	*Capparis arborea*	Brush Caper Berry	Capparaceae	Vine	
81	*Carissa ovata*	Carissa	Apocynaceae	Shrub	
82	*Cassia bicapsularis*	Yellow Senna	Caesalpiniaceae	Shrub	*
83	*Cassia brewsteri var marksiana*	Brush Cassia	Caesalpiniaceae	Tree	RC
84	*Cassia coluteoides*	Winter Senna	Caesalpiniaceae	Shrub	*
85	*Cassia floribunda*	Smooth Cassia	Caesalpiniaceae	Shrub	
86	*Cassinia subtropica*	Cassinia	Asteraceae	Shrub	
87	*Cassytha filiformis*	Dodder	Lauraceae	Vine	
88	*Castanospermum australe*	Blackbean	Fabaceae	Tree	
89	*Castanospora alphandii*	Brown Tamarind	Sapindaceae	Tree	
90	*Casuarina cunninghamiana*	River Oak	Casuarinaceae	Tree	
91	*Casuarina glauca*	Swamp Sheoak	Casuarinaceae	Tree	
92	*Cayratia acris*	Hairy Water Vine	Vitaceae	Vine	
93	*Cayratia clematidea*	Slender Grape	Vitaceae	Climber	
94	*Celastrus australis*	Staff vine	Celastraceae	Vine	
95	*Celastrus subspicata*	Large leaf Staff Vine	Celastraceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
96	*Celtis sinensis*	Chinese Celtis	Ulmaceae	Tree	*
97	*Centella asiatica*	Gotu Kola	Apiaceae	Herb	
98	*Cheilanthes sieberi*	Mulga Fern	Schizeaeceae	Fern	
99	*Chloris gayana*	Rhodes Grass	Poaceae	Herb	*
100	*Christella dentata*	Binung	Thelypteridaceae	Fern	
101	*Chrysanthemoides monilifera*	Bitou Bush	Asteraceae	Shrub	* P2
102	*Chrysocephalum apiculatum*	Yellow Buttons	Asteraceae	Herb	
103	*Cinnamomum camphora*	Camphor Laurel	Lauraceae	Tree	*
104	*Cinnamomum oliveri*	Oliver's Sassafras	Lauraceae	Tree	
105	*Cirsium vulgare*	Spear Thistle	Asteraceae	Herb	*
106	*Cissus antarctica*	Water Vine	Vitaceae	Vine	
107	*Cissus hypoglauca*	Five leaf Water Vine	Vitaceae	Vine	
108	*Cissus opaca*	Small leaf Water Vine	Vitaceae	Vine	
109	*Citriobatus pauciflorus*	Orange Thorn	Pittosporaceae	Shrub	
110	*Citrus limon*	Lemon tree	Rutaceae	Tree/shrub	*
111	*Claoxylon australe*	Brittlewood	Euphorbiaceae	Shrub/tree	
112	*Cleistanthus cunninghamii*	Omega	Euphorbiaceae	Tree	
113	*Clerodendrum foribundum*	Lolly Bush	Verbenaceae	Shrub/tree	
114	*Commelina cyanea*	Wandering Jew	Commelinaceae	Herb	*
115	*Commersonia bartramia*	Brown Kurrajong	Sterculiaceae	Tree	
116	*Cordyline congesta*	Palm Lily	Agavaceae	Shrub	
117	*Cordyline petiolaris*	Palm Lily	Agavaceae	Shrub	C RE,F
118	*Corymbia citriodora*	Spotted Gum	Myrtaceae	Tree	
119	*Corymbia gummifera*	Red Bloodwood	Myrtaceae	Tree	
120	*Corymbia intermedia*	Pink Bloodwood	Myrtaceae	Tree	
121	*Cotula coronopifolia*	Water Buttons	Asteraceae	Herb	
122	*Crotalaria incana*	Crotalaria	Fabaceae	Herb	
123	*Croton insularis*	Silver Croton	Euphorbiaceae	Shrub	
124	*Croton verreauxii*	Native Carscarilla	Euphorbiaceae	Shrub	
125	*Cryptocarya glaucesens*	Jackwood	Lauraceae	Tree	
126	*Cryptocarya laevigata var bowei*	Glossy Laurel	Lauraceae	Shrub	
127	*Cryptocarya microneura*	Murrogun/Brown Jack	Lauraceae	Tree	
128	*Cryptocarya obovata*	Pepperberry	Lauraceae	Tree	
129	*Cryptocarya rigida*	Forest/Rose Maple	Lauraceae	Shrub/tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
130	*Cryptocarya triplinervis*	Brown Laurel	Lauraceae	Shrub/tree	
131	*Cupaniopsis anacardioides*	Tuckeroo	Sapindaceae	Tree	
132	*Cupaniopsis newmanii*	Long leaf Tuckeroo	Sapindaceae	Tree	2RC
133	*Cupaniopsis parvifolia*	Small leaf Tuckeroo	Sapindaceae	Tree	
134	*Cupaniopsis serrata*	Smooth Tuckeroo	Sapindaceae	Tree	
135	*Cyathea cooperi*	Rough Tree fern	Cyatheaceae	Fern	
136	*Cymbidium sp ind.*		Orchidaceae	Herb	C RE
137	*Cymbopogon refractus*	Barbed Wire Grass	Poaceae	Herb	
138	*Cynodon dactylon*	Couch	Poaceae	Herb	
139	*Cyperus brevifolius*	Mullumbimby Couch	Cyperaceae	Herb	*
140	*Cyperus polystachyos*	Bunchy Sedge	Cyperaceae	Herb	
141	*Cyperus sp ind*	a sedge	Cyperaceae	Herb	
142	*Davallia pyxidata*	Hare's Foot fern	Davalliaceae	Fern	C, RE
143	*Daviesia arborea*	Bitter Pea	Fabaceae	Tree	
144	*Delonix regia*	Flame Tree	Caesalpinniaceae	Tree	*
145	*Denhamia celastroides*	Denhamia	Celastraceae	Tree	
146	*Derris involuta*	Native Derris	Fabaceae	Vine	
147	*Desmodium gunnii*	Tick-trefoil	Fabaceae	Shrub	
148	*Desmodium ryhtidophyllum*	Rusty Tick-trefoil	Fabaceae	Shrub	
149	*Desmodium uncinatum*	Tick-trefoil	Fabaceae	Shrub	
150	*Dianella caerulea.*	Flax Lily	Liliaceae	Herb	
151	*Dianella longifolia*	Long leaved Flax Lily	Liliaceae	Herb	
152	*Dianella revoluta var revoluta*	Flax Lily	Liliaceae	Herb	
153	*Digitaria didactyla*	Blue Couch	Poaceae	Herb	
154	*Dioscorea transversa*	Native Yam	Dioscoreaceae	Vine	
155	*Diospyros australis*	Black Plum	Ebenaceae	Tree	
156	*Diospyros fasciculosa*	Grey Ebony	Ebenaceae	Tree	
157	*Diospyros pentamera*	Grey Persimmon	Ebenaceae	Tree	
158	*Diploglottis australis*	Native Tamarind	Ebenaceae	Tree	
159	*Dissilaria baloghoides*	Hauer	Euphorbiaceae	Tree	
160	*Dodonea triquetra*	Native Hops Bush	Sapindaceae	Shrub	
161	*Doodia aspera*	Prickly Rasp Fern	Blechnaceae	Fern	
162	*Doodia caudata*	Small Rasp Fern	Blechnaceae	Fern	
163	*Doodia media*	Common Rasp Fern	Blechnaceae	Fern	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
164	*Drymaria cordata*	Tropical Chickweed	Caryophyllaceae	Herb	*
165	*Drypetes deplanchei*	Yellow Tulip	Euphorbiaceae	Tree	
166	*Dysoxylum muelleri*	Red Bean	Meliaceae	Tree	
167	*Dysoxylum rufrum*	Hairy Rosewood	Meliaceae	Tree	
168	*Eclipta prostrata*	Eclipta	Asteraceae	Herb	*
169	*Elaeocarpus grandis*	Blue Quandong	Elaeocarpaceae	Tree	
170	*Elaeocarpus obovatus*	Hard Quandong	Elaeocarpaceae	Tree	
171	*Elaeocarpus reticulatus*	Blueberry Ash	Elaeocarpaceae	Tree	
172	*Elaeodendron australe*	Red Olive Plum	Celastraceae	Tree	
173	*Elattostachys nervosa*	Beetroot	Sapindaceae	Tree	
174	*Eleocharis equisetina*	Spike Rush	Cyperaceae	Herb	
175	*Embelia australiana*	Embelia	Myrsinaceae	Vine	
176	*Endiandra discolor*	Rose Walnut	Lauraceae	Tree	
177	*Endiandra globosa*	Black Walnut	Lauraceae	Tree	2RC
178	*Endiandra hayseii*	Velvet Laurel	Lauraceae	Tree	3VC
179	*Endiandra muelleri*	Green leaved Rose Walnut	Lauraceae	Tree	
180	*Endiandra pubens*	Hairy Walnut	Lauraceae	Tree	
181	*Entolasia stricta*	Wiry Panic	Poaceae	Herb	
182	*Eragrostis tenuifolia*	Elastic Grass	Poaceae	Herb	
183	*Erechtites valerianiifolia*	Brazilian Fireweed	Asteraceae	Herb	*
184	*Eriobotrya japonica*	Loquat	Rosaceae	Tree	*
185	*Ervatamia angustisepala*	Bannana Bush	Apocynaceae	Shrub	
186	*Erythrina vespertilio*	Bats Wing Coral Tree	Fabaceae	Tree	
187	*Erythrina x hybrida*	Coral Tree	Fabaceae	Tree	*
188	*Eucalyptus acmenoides*	White Mahogany	Myrtaceae	Tree	
189	*Eucalyptus carnea*	Broad leaved White Mahogany	Myrtaceae	Tree	
190	*Eucalyptus crebra*	Narrow leaf Ironbark	Myrtaceae	Tree	
191	*Eucalyptus grandis*	Flooded gum	Myrtaceae	Tree	
192	*Eucalyptus microcorys*	Tallowwood	Myrtaceae	Tree	C RE, F
193	*Eucalyptus pilularis*	Blackbutt	Myrtaceae	Tree	C RE, F
194	*Eucalyptus propinqua*	Grey Gum	Myrtaceae	Tree	C RE, F
195	*Eucalyptus resinifera*	Red Mahogany	Myrtaceae	Tree	
196	*Eucalyptus siderophloia*	Qld Grey Ironbark	Myrtaceae	Tree	
197	*Eucalyptus tereticornis*	Forest Red Gum	Myrtaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
198	*Eucalyptus tindaliae*	Q White Stringybark	Myrtaceae	Tree	
199	*Eucalyptus torelliana*	Cadagai	Myrtaceae	Tree	* Nth Q
200	*Eugenia uniflora*	Brazil Cherry	Myrtaceae	Shrub	*
201	*Eupomatia laurina*	Bolwarra	Eupomataceae	Shrub	
202	*Euroschinus falcata*	Ribbonwood	Anacardiaceae	Tree	
203	*Eustrephus latifolius*	Wombat Berry	Philesiaceae	Herb	
204	*Exocarya scleroidies*	A sedge	Cyperaceae	Herb	
205	*Ficus benjamina*	Weeping Fig	Moraceae	Tree	
206	*Ficus coronata*	Creek Sandpaper Fig	Moraceae	Tree	
207	*Ficus hillii*	Hill's Fig	Moraceae	Tree	
208	*Ficus macrophylla*	Moreton Bay Fig	Moraceae	Tree	
209	*Ficus platypoda*	Rock Fig	Moraceae	Tree	
210	*Fimbristylis dichotoma*	Common Fringe-rush	Cyperaceae	Herb	
211	*Flagellaria indica*	Whip Vine	Flagellariaceae	Vine	
212	*Flindersia australis*	Teak	Rutaceae	Tree	
213	*Flindersia bennettiana*	Bennet's Ash	Rutaceae	Tree	
214	*Flindersia schottiana*	Cudgerie	Rutaceae	Tree	
215	*Flindersia xanthoxyla*	Yellow wood	Rutaceae	Tree	
216	*Gahnia aspera*	Sword Grass	Cyperaceae	Herb	
217	*Geitonoplesium cymosum*	Scrambling Lily	Philesiaceae	Herb	
218	*Gleichenia dicarpa*	Tangle Fern	Gleicheniaceae	Fern	C RE,F
219	*Glochidion ferdinandi*	Cheese tree	Euphorbiaceae	Tree	
220	*Glochidion sumatranum*	Umbrella Cheese Tree	Euphorbiaceae	Tree	
221	*Glycine clandestina*	Glycine	Fabaceae	Herb	
222	*Glycine tabacina*	Glycine Pea	Fabaceae	Herb	
223	*Gnaphalium sp. ind.*	Cudweed	Asteraceae	Herb	*
224	*Goodenia rotundifolia*	Goodenia	Goodeniaceae	Herb	
225	*Grevillea robusta*	Silky Oak	Proteaceae	Tree	
226	*Grewia latifolia*	Dogs Balls	Tiliaceae	Shrub	
227	*Guioa semiglauca*	Guioa	Sapindaceae	Tree	
228	*Gymnostachys anceps*	Settler's Flax	Araceae	Herb	
229	*Hakea florulenta*	Hakea	Proteaceae	Shrub	
230	*Hardenbergia violacea*	Native Sarsparilla	Fabaceae	Vine	C RE, F
231	*Harpulia pendula*	tulipwood	Sapindaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
232	*Hedraianthera porphyropetala*	Hedraianthera	Celastraceae	Shrub	
233	*Helichrysum diosmifolium*	Sago Flower	Asteraceae	Shrub	
234	*Helichrysum ramosissimum*	Yellow buttons	Asteraceae	Herb	
235	*Helicia ferruginea*	Rusty Helicia	Proteaceae	Tree	3RC
236	*Hibbertia aspera*	Hibbertia	Dilleniaceae	Shrub	
237	*Hibbertia dentata*	Trailing guinea flower	Dilleniaceae	Vine	
238	*Hibbertia stricta*	a guinea flower	Dilleniaceae	Shrub	
239	*Hibbertia vestita*	Small-leaf Guinea Bush	Dilleniaceae	Shrub	
240	*Hibiscus heterophyllus*	Native Rosella	Malvaceae	Shrub	
241	*Hovea acutifolia*	Purple Pea Bush	Fabaceae	Shrub	
242	*Hoya australis*	Wax Flower Vine	Asclepidaceae	Vine	
243	*Hybanthus enneaspermus*	Spade Flower	Violaceae	Herb	
244	*Hymenosporum flavum*	Native Frangipani	Apocynaceae	Tree	
245	*Hypochoeris radicata*	Flatweed	Asteraceae	Herb	*
246	*Hypolepis muelleri*	Harsh Ground-fern	Dennataedtiaceae	Fern	
247	*Imperata cylindrica* var *major*	Blady Grass	Poaceae	Herb	
248	*Ipomea cairica*	Five-leaf Morning glory	Convolvulaceae	Vine	*
249	*Ipomea purpurea*	Morning glory	Convolvulaceae	Vine	*
250	*Jacaranda mimosaifolia*	Jacaranda	Bignoniaceae	Tree	*
251	*Jacksonia scoparia*	Dogwood	Fabaceae	Shrub	C RE,F
252	*Jagera pseudorhus*	Foambark	Sapindaceae	Tree	
253	*Juncus polyanthemus*	A rush	Juncaceae	Herb	
254	*Juncus usitatus*	Common rush	Juncaceae	Herb	
255	*Kennedia rubicunda*	Kennedy Pea	Fabaceae	Vine	
256	*Koelreuteria panniculata*	Golden Rain Tree	Sapindaceae	Tree	*
257	*Kreysigia multiflora*	Sarsparilla Lily	Convolvulaceae	Herb	
258	*Lagerstroemia indica*	Crepe Myrtle	Lythraceae	Tree	*
259	*Lantana camara*	Lantana	Verbenaceae	Shrub	*
260	*Lantana montevidensis*	Purple Lantana	Verbenaceae	Shrub	*
261	*Laxmannia gracilis*	Wire Lily	Anthericaceae	Herb	
262	*Lepiderema pulchella*	Fine leaf Tuckeroo	Sapindaceae	Tree	2RC
263	*Lepidosperma laterale*	Variable Sword-sedge	Cyperaceae	Herb	
264	*Lepironia articulata*	Giant Sedge	Cyperaceae	Herb	
265	*Leptospermum polygalifolium*	Wild May	Myrtaceae	Shrub	C RE,F

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
266	*Leucopogon juniperinus*	Prickly Heath	Epacridaceae	Shrub	
267	*Ligustrum lucidum*	Large Leaf Privet	Oleaceae	Shrub	*
268	*Ligustrum sinense*	Small Leaf Privet	Oleaceae	Shrub	*
269	*Lindsaea linearis*	Wedge Fern	Lindsaeaceae	Fern	
270	*Lindsaea microphylla*	Lacy Wedge Fern	Lindsaeaceae	Fern	
271	*Litsea reticulata*	Bolly gum	Lauraceae	Tree	
272	*Livistona australis*	Cabbage Palm	Arecaceae	Palm	
273	*Lobelia gibbosa*		Campanulaceae	Herb	
274	*Lobelia purpurascens*	White Root	Campanulaceae	Herb	
275	*Lobelia trigonocaulis*	Forest Lobelia	Campanulaceae	Herb	
276	*Lomandra filiformis*	Forest Matrush	Xanthorrhoeaceae	Herb	
277	*Lomandra hystrix*	Creek Matrush	Xanthorrhoeaceae	Herb	
278	*Lomandra longifolia*	Common Mat rush	Xanthorrhoeaceae	Herb	
279	*Lomandra multiflora*	Many flowered Matrush	Xanthorrhoeaceae	Herb	C RE, F
280	*Lomatia silaifolia*	Crinkle Bush	Proteaceae	Shrub	C RE, F
281	*Lophostemon confertus*	Brush Box	Myrtaceae	Tree	
282	*Lophostemon suavolens*	Swamp Brush Box	Myrtaceae	Tree	
283	*Ludwidgia octovalvis*	Willow Primrose	Onagraceae	Shrub	
284	*Ludwidgia peploides*	Water Primrose	Onagraceae	Herb	*
285	*Macaranga tanarius*	Macaranga	Euphorbiaceae	Tree	
286	*Macfadyena unguis-cati*	Cat's Claw Creeper	Bignoniaceae	Vine	*
287	*Maclura cochinchinensis*	Cockspur Thorn	Moraceae	Shrub/vine	
288	*Mallotus claoxyloides*	Green Kamala	Euphorbiaceae	Tree	
289	*Mallotus philippensis*	Red Kamala	Euphorbiaceae	Tree/shrub	
290	*Mangifera indica*	Mango	Anacardiaceae	Tree	*
291	*Marsdenia coronata*	Marsdenia	Asclepiadaceae	Vine	V
292	*Maytenus disperma*	Orange Bush	Celastraceae	Tree/shrub	
293	*Maytenus silvestris*	Narrow-leaf Orangebark	Celastraceae	Shrub	C RE,F
294	*Medicosma cunninghamii*	Pinkheart	Rutaceae	Shrub/tree	
295	*Meiogyne stenopetela*	Fissistigma	Annonaceae	Shrub/tree	
296	*Melaleuca linariifolia*	Flax Leaf Paperbark	Myrtaceae	Tree	C RE,F
297	*Melaleuca quinquenervia*	Broad leaved Paperbark	Myrtaceae	Tree	C RE,F
298	*Melia azederach*	White Cedar	Meliaceae	Tree	
299	*Melicope elleryana*	Pink Euodia	Rutaceae	Tree	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
300	*Melodinus australis*	Southern Melodinus	Apocynaceae	Vine	
301	*Melodorum leichhardtii*	Zig Zag Vine	Annonaceae	Vine	
302	*Microlaena stipoides*	Weeping Grass	Poaceae	Herb	
303	*Mischocarpus anodontus*	Veiny Pear-fruit	Sapindaceae	Tree	
304	*Mischocarpus pyriformis*	Woolly Pear-fruit	Sapindaceae	Tree	
305	*Morinda jasminoides*	Morinda	Rubiaceae	Shrub/vine	
306	*Morus rubra*	Black Mulberry	Moraceae	Tree	*
307	*Murdannia graminea*	Slug Herb	Commelinaceae	Herb	
308	*Myriophyllum crispatum*	Water Milfoil	Haloragaceae	Herb	
309	*Neolitsea dealbata*	White Bolly gum	Lauraceae	Tree	
310	*Neonotonia wightii*	Glycine	Fabaceae	Shrub/vine	*
311	*Nephrolepsis cordifolia*	Fishbone fern	Nephrolepidaceae	Fern	*
312	*Notelaea johnsonii*	Veinless Mock Olive	Oleaceae	Tree/shrub	
313	*Notelaea longifolia*	Large Mock Olive	Oleaceae	Tree/shrub	
314	*Notelaea ovata*	Mock Olive	Oleaceae	Tree/shrub	
315	*Nymphaea caerulea*	Blue Water lily	Nymphaeaceae	Herb	*
316	*Nymphaea capensis*	Cape Water Lily	Nymphaeaceae	Herb	*
317	*Nymphoides indica*	Water Snowflake	Menyanthaceae	Herb	
318	*Ochna atropurpurea*	Mickey Mouse Plant	Ochnaceae	Shrub	*
319	*Olea paniculata*	Native Olive	Oleaceae	Tree	
320	*Olearia nernstii*	Snow Bush	Asteraceae	Shrub	
321	*Omalanthus nutans*	Bleeding Heart	Euphorbiaceae	Shrub/tree	
322	*Oplismenus aemulus*	Oplismensus	Poaceae	Herb	
323	*Ottochloa gracillima*	Ottochloa	Poaceae	Herb	
324	*Ozothamnus diosmifolius*	Sago Flower	Asteraceae	Shrub	C RE,F
325	*Pandorea jasminoides*	Bower of Beauty	Bignoniaceae	Vine	
326	*Pandorea pandorana*	Wonga Vine	Bignoniaceae	Vine	
327	*Panicum maximum*	Guinea Grass	Poaceae	Herb	*
328	*Panicum pygmaeum*	Feather Grass, Dwarf Panic	Poaceae	Herb	*
329	*Pararistolochia praevenosa*	Richmond Birdwing vine	Aristolochiaceae	Vine	R
330	*Parsonsia straminea*	Common Silkpod	Apocynaceae	Vine	
331	*Paspalum dilatatum*	Paspalum	Poaceae	Herb	*
332	*Paspalum distichum*	Water Couch	Poaceae	Herb	
333	*Passiflora aurantia*	Blunt leaf Passionfruit	Passifloraceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
334	*Passiflora edulis*	Black Passionfruit	Passifloraceae	Vine	*
335	*Passiflora suberosa*	Corky passionflower	Passifloraceae	Vine	*
336	*Passiflora subpeltata*	White Passionfruit	Passifloraceae	Vine	
337	*Patersonia glabrata*	Native Iris	Iridaceae	Herb	
338	*Pennisetum clandestinum*	Kikuyu Grass	Poaceae	Herb	*
339	*Pentaceras australis*	Penta Ash	Rutaceae	Tree	
340	*Peperomia leptostachya*	Native Peperomia	Peperomiaceae	Herb	
341	*Peripleura hispidula*		Asteraceae	Herb	
342	*Persea gratissima*	Avocado	Lauraceae	Tree	*
343	*Persicaria decipiens*	Slender Knotweed	Polygonaceae	Herb	
344	*Persoonia cornifolia*	Broad leaved Geebung	Proteaceae	Shrub	
345	*Persoonia tenuifoila*	Fine leaf Geebung	Proteaceae	Shrub	
346	*Petalostigma triloculare*	Quinine Bush	Euphorbiaceae	Shrub	
347	*Phragmites australis*	Common Reed	Poaceae	Herb	
348	*Phylidrum languinosum*	Woolly Frogsmouth	Phylidraceae	Herb	
349	*Phyllanthus virgatus*		Euphorbiaceae	Herb	
350	*Phytolacca octandra*	Inkweed	Phytolaccaceae	Herb	*
351	*Pilidiostigma glabrum*	Plum Myrtle	Myrtaceae	Shrub/tree	
352	*Pimelea latifolia*	Rice Flower	Thymelaceae	Shrub	
353	*Pimelea linifolia*	Slender Rice Flower	Thymelaceae	Shrub	C RE,F
354	*Pinus elliottii*	Slash Pine	Pinaceae	Tree	*
355	*Pittosporum revolutum*	Hairy Pittosporum	Pittosporaceae	Shrub	
356	*Pittosporum undulatum*	Native Daphne	Pittosporaceae	Tree	
357	*Plantago gaudichaudii*	Plantain	Plantaginaceae	Herb	*
358	*Platycerium bifurcatum*	Elkhorn Fern	Polypodiaceae	Fern	
359	*Platycerium superbum*	Staghorn	Polypodiaceae	Fern	
360	*Plectranthus parviflorus*	Cockspur Flower	Lamiaceae	Herb	
361	*Polyscias elegans*	Celerywood	Araliaceae	Tree	
362	*Polyscias sambucifolius*	Elderberry Panax	Araliaceae	Shrub	
363	*Pothos longipes*	Pothos	Araceae	Vine	
364	*Protasparagus densiflorus*	Asparagus fern	Liliaceae	Herb	
365	*Pseuderanthemum variabile*	Love Flower	Acanthaceae	Herb	
366	*Pseudoweinmannia lachnocarpa*	Rose Marrara	Cunoniaceae	Tree	
367	*Psidium guajava*	Guava	Myrtaceae	Tree/shrub	*

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
368	*Psychotria daphnoides*	Smooth Psychotria	Rubiaceae	Shrub	
369	*Psychotria loniceroides*	Hairy Psychotria	Rubiaceae	Shrub	
370	*Pteridium esculentum*	Common Bracken	Dennstaedtiaceae	Fern	C RE,F
371	*Pultenea retusa*	Bush Pea	Fabaceae	Shrub	
372	*Pultenea villosa*	Bush Pea	Fabaceae	Shrub	C RE,F
373	*Pyrrosia confluens*	Rock Felt fern	Polypodiaceae	Fern	
374	*Pyrrosia rupestris*	Rock Felt-fern	Polypodiaceae	Fern	
375	*Quintinia verdonii*	Grey Possumwood	Escalloniaceae	Tree	
376	*Rapanea howittiana*	Brush Muttonwood	Myrsinaceae	Tree	
377	*Rapanea variabilis*	Muttonwood	Myrsinaceae	Tree	
378	*Raphiolepsis indica*	Indian Hawthorn	Rosaceae	Shrub	*
379	*Rhodamnia maideniana*	Smooth Scrub Turpentine	Myrtaceae	Tree	2RC
380	*Rhodamnia rubescens*	Scrub Turpentine	Myrtaceae	Shrub/tree	
381	*Rhodomyrtus psidioides*	Native Guava	Myrtaceae	Tree	
382	*Rhodosphaera rhodanthema*	Deep Yellow-wood	Anacardiaceae	Tree	
383	*Rhysotoechia bifoliolata*	Two-leaved Tuckeroo	Sapindaceae	Tree	
384	*Ricinus communis*	Castor Oil Plant	Euphorbiaceae	Shrub	*
385	*Ripogonum album*	White Supplejack	Smilacaceae	Vine	
386	*Ripogonum discolor*	Prickly Supplejack	Smilacaceae	Vine	
387	*Rubus hillii*	Molucca Bramble	Rosaceae	Vine	
388	*Rubus moluccanus*	Molucca Rasberry	Rosaceae	Vine	
389	*Rubus rosifolius*	Rose-leaf Bramble	Rosaceae	Vine	
390	*Sarcopteryx stipata*	Corduroy Tree	Sapindaceae	Tree	
391	*Schefflera actinophylla*	Umbrella Tree	Araliaceae	Tree	*(Nth Qld)
392	*Schinus terebinthifolius*	Qld Pepper Tree	Anacardiaceae	Tree	*
393	*Schizomeria ovata*	Crabapple	Myrtaceae	Shrub/tree	
394	*Schoenoplectus mucronatus*	Clubrush	Cyperaceae	Herb	
395	*Senecio madagascariensis*	Fireweed	Asteraceae	Herb	* P3
396	*Setaria verticilliata*	Whorled Pigeon Grass	Poaceae	Herb	*
397	*Sida cordifolia*	Flannel weed	Malvaceae	Shrub	
398	*Sida rhombifolia*	Paddys Lucerne	Malvaceae	Shrub	*
399	*Sloanea woolsii*	Yellow Carabeen	Elaeocarpaceae	Tree	
400	*Smilax australis*	Austral Sarsparilla	Smilacaceae	Vine	
401	*Smilax glycophylla*	Sweet Sarsparilla	Smilacaceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
402	*Solanum capsicoides*	Devil's Apple	Solanaceae	Shrub	*
403	*Solanum mauritianum*	Wild Tobacco	Solanaceae	Shrub/Tree	*
404	*Solanum nigrum*	Blackberry Nightshade	Solanaceae	Herb	*
405	*Solanum seaforthianum*	Climbing Nightshade	Solanaceae	Vine	
406	*Solanum stelligerum*	Star Nightshade	Solanaceae	Shrub	
407	*Sonchus oleraceus*	Milk Thistle	Asteraceae	Herb	*
408	*Spathodea campanulata*	Africa Tulip Tree	Bignoniaceae	Tree	*
409	*Sporobolus elongatus*	Slender Rats-tail Grass	Poaceae	Herb	*
410	*Sporobolus virginicus*	Salt Couch	Poaceae	Herb	
411	*Stellaria media*	Chickweed	Caryophyllaceae	Herb	*
412	*Stephania aculeata*	Prickly Snake Vine	Menispermaceae	Vine	
413	*Stephania japonica*	Snake Vine	Menispermaceae	Vine	
414	*Sterculia quadrifida*	Red-fruited Kurrajong	Sterculiaceae	Tree	
415	*Stipa pubescens*	Tall Spear grass	Poaceae	Herb	
416	*Streblus brunonianus*	Whalebone Tree	Moraceae	Tree	
417	*Stylidium graminifolium*	Trigger Plant	Stylidiaceae	Herb	C RE,F
418	*Syagrus romanzoffianum*	Cocos Palm	Arecaceae	Palm	*
419	*Syncarpia glomulifera*	Turpentine	Myrtaceae	Tree	
420	*Synoum glandulosum*	Scentless rosewood	Meliaceae	Tree	
421	*Syzygium australe*	Brush cherry	Myrtaceae	Tree	
422	*Syzygium francisii*	Giant Water Gum	Myrtaceae	Tree	
423	*Syzygium leuhmannii*	Riberry	Myrtaceae	Tree	
424	*Syzygium moorei*	Rose apple/Durobby	Myrtaceae	Tree	2VCi
425	*Syzygium oleosum*	Blue Lilly Pilly	Myrtaceae	Tree	
426	*Tabernaemontana pandacaqui*	Bannana Bush	Apocynaceae	Shrub	
427	*Tagetes erecta*	Stinking Roger	Asteraceae	Herb	*
428	*Tetrastigma nitens*	Three-leafed Water Vine	Vitaceae	Vine	
429	*Themeda triandra*	Kangaroo Grass	Poaceae	Herb	
430	*Toechima dasyrrache*	Blunt leaved Steelwood	Sapindaceae	Tree	
431	*Toechima tenax*	Toechima	Sapindaceae	Tree	
432	*Toona ciliata*	Red Cedar	Meliaceae	Tree	
433	*Trandescantia cyanea*	Native Wandering Jew	Commelinaceae	Herb	
434	*Trema tomentosa*	Poison Peach	Ulmaceae	Shrub/tree	
435	*Trichosanthes subvelutina*	Silky Cucumber	Cucurbitaceae	Vine	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS
436	*Trifolium campestre*	Hop Clover	Fabaceae	Herb	
437	*Trifolium procumbens*	Yellow Hop Clover	Fabaceae	Herb	*
438	*Trochocarpa laurina*	Tree-heath	Epacridaceae	Shrub/tree	
439	*Trophis scandens*	Burney Vine	Moraceae	Vine	
440	*Typha orientalis*	Cumbungi	Typhaceae	Herb	
441	*Verbena bonariensis*	Purple Top	Verbenaceae	Herb	*
442	*Viola hederacea*	Native Violet	Violaceae	Herb	
443	*Wedelia trilobata*	Singapore daisy	Asteraceae	Herb	*
444	*Wikstroemea indica*	Tie-bush	Thymelaceae	Shrub	
445	*Wilkea austroqueenslandica*	Smooth Wilkea	Monimaceae	Shrub	
446	*Wilkea heugeliana*	Veiny Wilkea	Monimaceae	Shrub	
447	*Wilkea macrophylla*	Large Leaved Wilkea	Monimaceae	Shrub	
448	*Xanthorrhoea macronema*	Bottlebrush Grass tree	Xanthorrhoeaceae	Shrub	C RE
449	*Zanthoxylum brachyanthum*	Thorny Yellowwood	Rutaceae	Tree	
450	*Zieria smithii*	Sandfly Zieria	Rutaceae	Shrub	

No.	GENUS/SPECIES	COMMON NAME	FAMILY	TYPE	STATUS

EXPLANATION OF CODES

* Denotes introduced plants (some naturalised)

Nature Conservation Legislation

C = Common; R = Rare; V = Vulnerable; E = Endangered; X = Presumed extinct
RE = Restricted Plants
RE, F = Restricted plants where control is for harvesting and trade in cut flowers and foliage only

Rural Lands Protection Act (Declared Plants)

P3 = Plants whose numbers and/or distribution are to be REDUCED throughout the state
P4 = Plants which are PREVENTED FROM SPREADING from places in which they occur in the state

CURRUMBIN SPECIES LIST

Surveyed and compiled by: Jan Allen and Graham Dart
Date: November 2003-February 2004

SPECIES LIST ALPHABETICALLY BY FAMILY

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
1	Acanthaceae	*Brunoniella australis*	Blue Trumpet	Herb	
		Pseuderanthemum variabile	Love Flower	Herb	
2	Adiantaceae	*Adiantum atroviride*	Soft Maidenhair	Fern	
		Adiantum hispidulum	Rough Maidenhair	Fern	
3	Agavaceae	*Cordyline congesta*	Palm Lily	Shrub	C RE,F
		Cordyline petiolaris	Palm Lily	Shrub	
4	Anacardiaceae	*Euroschinus falcata*	Ribbonwood	Tree	
		Mangifera indica	Mango	Tree	*
		Rhodosphaera rhodanthema	Deep Yellow-wood	Tree	
		Schinus terebinthifolius	Qld Pepper Tree	Tree	*
5	Annonaceae	*Melogyne stenopetela*	Fissistigma	Shrub/tree	
		Melodorum leichhardtii	Zig Zag Vine	Vine	
6	Anthericaceae	*Laxmannia gracilis*	Wire Lily	Herb	
7	Apiaceae	*Centella asiatica*	Gotu Kola	Herb	
8	Apocynaceae	*Alyxia ruscifolia*	Prickly alixia	Shrub	
		Carissa ovata	Carissa	Shrub	
		Ervatamia angustisepala	Bannana Bush	Shrub	
		Hymenosporum flavum	Native Frangipani	Tree	
		Melodinus australis	Southern Melodinus	Vine	
		Parsonsia straminea	Common Silkpod	Vine	
		Tabernaemontana pandacaqui	Bannana Bush	Shrub	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
9	Araceae	*Alocasia brisbaniensis*	Cunjevoi	Herb	
		Alocasia sp	Elephant Ears	Herb	*
		Gymnostachys anceps	Settler's Flax	Herb	
		Pothos longipes	Pothos	Vine	
10	Araliaceae	*Polyscias elegans*	Celerywood	Tree	
		Polyscias sambucifolius	Elderberry Panax	Shrub	
		Schefflera actinophylla	Umbrella Tree	Tree	*(Nth Qld)
11	Araucariaceae	*Araucaria cunninghamii*	Hoop Pine	Tree	
12	Arecaceae	*Archontophoenix cunninghamiana*	Bangalow Palm	Palm	
		Calamus muelleri	Lawyer Vine	Palm	
		Livistona australis	Cabbage Palm	Palm	
		Syagrus romanzoffianum	Cocos Palm	Palm	*
13	Aristolochiaceae	*Pararistolochia praevenosa*	Richmond Birdwing vine	Vine	R
14	Asclepidaceae	*Asclepias curassavica*	Redhead cotton bush	Shrub	*
		Asclepias physocarpus	Balloon cotton bush	Shrub	*
		Marsdenia coronata	Marsdenia	Vine	V
15	Aspleniaceae	*Asplenium australasicum*	Bird's Nest Fern	Fern	C RE
16	Asteraceae	*Ageratina adenophora*	Crofton Weed	Herb/shrub	* P3
		Ageratina riparia	Mist Weed	Herb/shrub	* P3
		Ageratum conyzoides	Billygoat Plant	Herb	*
		Ambrosia artemisiifolia	Annual Ragweed	Herb	P3 *
		Baccharis halimifolia	Groundsel	Shrub	* P3, P4
		Bidens pilosa	Cobblers Pegs	Herb	*
		Cassinia subtropica	Cassinia	Shrub	
		Chrysanthemoides monilifera	Bitou Bush	Shrub	* P2
		Chrysocephalum apiculatum	Yellow Buttons	Herb	
		Cirsium vulgare	Spear Thistle	Herb	*
		Cotula coronopifolia	Water Buttons	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Asteraceae	*Eclipta prostrata*	Eclipta	Herb	*
		Erechtites valerianlifolia	Brazilian Fireweed	Herb	*
		Gnaphalium sp. ind.	Cudweed	Herb	*
		Helichrysum diosmifolium	Sago Flower	Shrub	
		Helichrysum ramosissimum	Yellow buttons	Herb	
		Hypochoeris radicata	Flatweed	Herb	*
		Olearia nernstii	Snow Bush	Shrub	
		Ozothamnus diosmifolius	Sago Flower	Shrub	C RE,F
		Peripleura hispidula		Herb	
		Senecio madagascariensis	Fireweed	Herb	* P3
		Sonchus oleraceus	Milk Thistle	Herb	*
		Tagetes erecta	Stinking Roger	Herb	*
17	Avicenniaceae	*Avicennia marina*	Grey Mangrove	Tree	
18	Bignoniaceae	*Jacaranda mimosaifolia*	Jacaranda	Tree	*
		Macfadyena unguis-cati	Cat's Claw Creeper	Vine	*
		Pandorea jasminoides	Bower of Beauty	Vine	
		Pandorea pandorana	Wonga Vine	Vine	
		Spathodea campanulata	Africa Tulip Tree	Tree	*
19	Blechnaceae	*Blechnum cartilagineum*	Gristle Fern	Fern	C RE,F
		Blechnum indicum	Water Fern	Fern	C RE,F
		Doodia aspera	Prickly Rasp Fern	Fern	
		Doodia caudata	Small Rasp Fern	Fern	
		Doodia media	Common Rasp Fern	Fern	
20	Caesalpiniaceae	*Caesalpinia subtropica*	Corky Prickle Vine	Vine	
		Cassia bicapsularis	Yellow Senna	Shrub	*
		Cassia brewsteri var marksiana	Brush Cassia	Tree	RC
		Cassia coluteoides	Winter Senna	Shrub	*
		Cassia floribunda	Smooth Cassia	Shrub	
		Delonix regia	Flame Tree	Tree	*

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
21	Campanulaceae	*Lobelia gibbosa*		Herb	
		Lobelia purpurascens	White Root	Herb	
		Lobelia trigonocaulis	Forest Lobelia	Herb	
22	Capparaceae	*Capparis arborea*	Brush Caper Berry	Vine	
23	Caryophyllaceae	*Drymaria cordata*	Tropical Chickweed	Herb	
		Stellaria media	Chickweed	Herb	
24	Casuarinaceae	*Allocasuarina littoralis*	Black She-oak	Tree	C RE,F
		Allocasuarina torulosa	Forest Sheoak	Tree	
		Casuarina cunninghamiana	River Oak	Tree	
		Casuarina glauca	Swamp Sheoak	Tree	
25	Celastraceae	*Celastrus australis*	Staff vine	Vine	
		Celastrus subspicata	Large leaf Staff Vine	Vine	
		Denhamia celastroides	Denhamia	Tree	
		Elaeodendron australe	Red Olive Plum	Tree	
		Hedraianthera porphyropetala	Hedraianthera	Shrub	
		Maytenus disperma	Orange Bush	Tree/shrub	
		Maytenus silvestris	Narrow-leaf Orangebark	Shrub	C RE,F
26	Commelinaceae	*Anellema acuminatum*	Native Wandering Jew	Herb	
		Commelina cyanea	Wandering Jew	Herb	*
		Murdannia graminea	Slug Herb	Herb	
		Trandescantia cyanea	Native Wandering Jew	Herb	
27	Convolvulaceae	*Ipomea cairica*	Five-leaf Morning glory	Vine	*
		Ipomea purpurea	Morning glory	Vine	*
		Kreysigia multiflora	Sarsparilla Lily	Herb	
28	Cucurbitaceae	*Trichosanthes subvelutina*	Silky Cucumber	Vine	
29	Cunoniaceae	*Caldcluvia paniculosa*	Soft Corkwood	Tree	
		Pseudoweinmannia lachnocarpa	Rose Marrara	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
30	Cyatheaceae	*Cyathea cooperi*	Rough Tree fern	Fern	
31	Cyperaceae	*Baumea articulata*	Jointed Twigrush	Herb	
		Cyperus brevifolius	Mullumbimby Couch	Herb	*
		Cyperus polystachyos	Bunchy Sedge	Herb	
		Cyperus sp ind	a sedge	Herb	
		Eleocharis equisetina	Spike Rush	Herb	
		Exocarya scleroidies	A sedge	Herb	
		Fimbristylis dichotoma	Common Fringe-rush	Herb	
		Gahnia aspera	Sword Grass	Herb	
		Lepidosperma laterale	Variable Sword-sedge	Herb	
		Lepironia articulata	Giant Sedge	Herb	
		Schoenoplectus mucronatus	Clubrush	Herb	
32	Davalliaceae	*Davallia pyxidata*	Hare's Foot fern	Fern	C RE
33	Dennstaedtiaceae	*Hypolepis muelleri*	Harsh Ground-fern	Fern	
		Pteridium esculentum	Common Bracken	Fern	C RE,F
34	Dicksoniaceae	*Calochlaena dubia (syn Culcita dubia)*	False Bracken	Fern	C RE,F
35	Dilleniaceae	*Hibbertia aspera*	Hibbertia	Shrub	
		Hibbertia dentata	Trailing guinea flower	Vine	
		Hibbertia stricta	a guinea flower	Shrub	
		Hibbertia vestita	Small-leaf Guinea Bush	Shrub	
36	Dioscoreaceae	*Dioscorea transversa*	Native Yam	Vine	
37	Ebenaceae	*Diospyros australis*	Black Plum	Tree	
		Diospyros fasciculosa	Grey Ebony	Tree	
		Diospyros pentamera	Grey Persimmon	Tree	
		Diploglottis australis	Native Tamarind	Tree	
38	Elaeocarpaceae	*Elaeocarpus grandis*	Blue Quandong	Tree	
		Elaeocarpus obovatus	Hard Quandong	Tree	
		Elaeocarpus reticulatus	Blueberry Ash	Tree	
		Sloanea woolsii	Yellow Carabeen	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
39	Epacridaceae	*Leucopogon juniperinus*	Prickly Heath	Shrub	
		Trochocarpa laurina	Tree-heath	Shrub	
40	Escalloniaceae	*Quintinia verdonii*	Grey Possumwood	Tree	
41	Euphorbiaceae	*Alchornea ilicifolia*	Native Holly	Shrub/tree	
		Baloghia inophylla	Scrub Bloodwood	Tree	
		Breynia oblongifolia	Coffee Bush	Shrub	
		Bridelia exaltata	Brush Ironbark	Tree	
		Claoxylon australe	Brittlewood	Shrub/tree	
		Cleistanthus cunninghamii	Omega	Tree	
		Croton insularis	Silver Croton	Shrub	
		Croton verreauxii	Native Carscarilla	Shrub	
		Dissilaria baloghoides	Hauer	Tree	
		Drypetes deplanchei	Yellow Tulip	Tree	
		Glochidion ferdinandi	Cheese tree	Tree	
		Glochidion sumatranum	Umbrella Cheese Tree	Tree	
		Macaranga tanarius	Macaranga	Tree	
		Mallotus claoxyloides	Green Kamala	Tree	
		Mallotus philippensis	Red Kamala	Tree/shrub	
		Omalanthus nutans	Bleeding Heart	Shrub/tree	
		Petalostigma triloculare	Quinine Bush	Shrub	
		Phyllanthus virgatus		Herb	
		Ricinus communis	Castor Oil Plant	Shrub	*
42	Fabaceae	*Austroteensia blackii*	Blood Vine	Vine	
		Callerya australis	Blunt Leaved Wisteria	Vine	3RC
		Callerya megasperma	Native Wisteria	Vine	
		Castanospermum australe	Blackbean	Tree	
		Crotalaria incana	Crotalaria	Herb	
		Daviesia arborea	Bitter Pea	Tree	
		Derris involuta	Native Derris	Vine	
		Desmodium gunnii	Tick-trefoil	Shrub	
		Desmodium rhytidophyllum	Rusty Tick-trefoil	Shrub	
		Desmodium uncinatum	Tick-trefoil	Shrub	
		Erythrina vespertilio	Bats Wing Coral Tree	Tree	
	Fabaceae	*Erythrina x hybrida*	Coral Tree	Tree	*

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
		Glycine clandestina	Glycine	Herb	
		Glycine tabacina	Glycine Pea	Herb	
		Hardenbergia violacea	Native Sarsparilla	Vine	C RE, F
		Hovea acutifolia	Purple Pea Bush	Shrub	
		Jacksonia scoparia	Dogwood	Shrub	C RE,F
		Kennedia rubicunda	Kennedy Pea	Vine	
		Neonotonia wightii	Glycine	Shrub/vine	*
		Pultenea retusa	Bush Pea	Shrub	
		Pultenea villosa	Bush Pea	Shrub	C, REF
		Trifolium campestre	Hop Clover	Herb	
		Trifolium procumbens	Yellow Hop Clover	Herb	*
43	Flagellariaceae	*Flagellaria indica*	Whip Vine	Vine	
44	Gleicheniaceae	*Gleichenia dicarpa*	Tangle Fern	Fern	C RE,F
45	Goodeniaceae	*Goodenia rotundifolia*	Goodenia	Herb	
46	Haloragaceae	*Myriophyllum crispatum*	Water Milfoil	Herb	
47	Iridaceae	*Patersonia glabrata*	Native Iris	Herb	
48	Juncaceae	*Juncus polyanthemus*	A rush	Herb	
		Juncus usitatus	Common rush	Herb	
49	Lamiaceae	*Plectranthus parviflorus*	Cockspur Flower	Herb	
50	Lauraceae	*Beilschmeidia elliptica*	Grey Walnut	Tree	
		Cassytha filiformis	Dodder	Vine	
		Cinnamomum camphora	Camphor Laurel	Tree	*
		Cinnamomum oliveri	Oliver's Sassafras	Tree	
		Cryptocarya glaucesens	Jackwood	Tree	
		Cryptocarya laevigata var bowei	Glossy Laurel	Shrub	
		Cryptocarya microneura	Murrogun/Brown Jack	Tree	
		Cryptocarya obovata	Pepperberry	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Lauraceae	*Cryptocarya rigida*	Forest/Rose Maple	Shrub/tree	
		Cryptocarya triplinervis	Brown Laurel	Shrub/tree	
		Endiandra discolor	Rose Walnut	Tree	
		Endiandra globosa	Black Walnut	Tree	2RC
		Endiandra hayseii	Velvet Laurel	Tree	3VC
		Endiandra muelleri	Green leaved Rose Walnut	Tree	
		Endiandra pubens	Hairy Walnut	Tree	
		Litsea reticulata	Bolly gum	Tree	
		Neolitsea dealbata	White Bolly gum	Tree	
		Persea gratissima	Avocado	Tree	*
51	Liliaceae	*Dianella caerulea.*	Flax Lily	Herb	
		Dianella longifolia	Long leaved Flax Lily	Herb	
		Dianella revoluta var revoluta	Flax Lily	Herb	
		Protasparagus densiflorus	Asparagus fern	Herb	
52	Lindsaeaceae	*Lindsaea linearis*	Wedge Fern	Fern	
		Lindsaea microphylla	Lacy Wedge Fern	Fern	
53	Lythraceae	*Lagerstroemia indica*	Crepe Myrtle	Tree	*
54	Malvaceae	*Hibiscus heterophyllus*	Native Rosella	Shrub	
		Sida cordifolia	Flannel weed	Shrub	
		Sida rhombifolia	Paddys Lucerne	Shrub	*
55	Meliaceae	*Dysoxylum muelleri*	Red Bean	Tree	
		Dysoxylum rufrum	Hairy Rosewood	Tree	
		Melia azederach	White Cedar	Tree	
		Synoum glandulosum	Scentless rosewood	Tree	
		Toona ciliata	Red Cedar	Tree	
56	Menispermaceae	*Stephania aculeata*	Prickly Snake Vine	Vine	
		Stephania japonica	Snake Vine	Vine	
57	Menyanthaceae	*Nymphoides indica*	Water Snowflake	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
58	Mimosaceae	*Acacia bakeri*	Marblewood	Tree	
		Acacia disparrima	Hickory Wattle	Tree	
		Acacia falcata	Wattle	Shrub/tree	
		Acacia fimbriata	Fringed Wattle	Shrub/tree	C RE,F
		Acacia implexa	Lightwood	Shrub	C RE,F
		Acacia leiocalyx	Cunningham's Wattle	Shrub/tree	
		Acacia longissima	Wattle	Shrub/tree	
		Acacia maidenii	Maidens Wattle	Shrub/tree	
		Acacia melanoxylon	Black Wattle	Tree	
		Acacia podalyriifolia	Qld Silver Wattle	Shrub	
		Archidendron grandiflorum	Pink Laceflower	Tree	
59	Monimaceae	*Wilkea austroqueenslandica*	Smooth Wilkea	Shrub	
		Wilkea heugeliana	Veiny Wilkea	Shrub	
		Wilkea macrophylla	Large Leaved Wilkea	Shrub	
60	Moraceae	*Ficus benjamina*	Weeping Fig	Tree	
		Ficus coronata	Creek Sandpaper Fig	Tree	
		Ficus hillii	Hill's Fig	Tree	
		Ficus macrophylla	Moreton Bay Fig	Tree	
		Ficus platypoda	Rock Fig	Tree	
		Maclura cochinchinensis	Cockspur Thorn	Shrub/vine	
		Morus rubra	Black Mulberry	Tree	*
		Streblus brunonianus	Whalebone Tree	Tree	
		Trophis scandens	Burney Vine	Vine	
61	Myrsinaceae	*Embelia australiana*	Embelia	Vine	
		Rapanea howittiana	Brush Muttonwood	Tree	
		Rapanea variabilis	Muttonwood	Tree	
62	Myrtaceae	*Acmena smithii*	Creek Lilly Pilly	Shrub/tree	
		Angophora leiocarpa	Smooth Barked Apple	Tree	
		Archirhodomyrtus beckleri	Rose Myrtle	Shrub/tree	
		Austromyrtus dulcis	Midyim	Shrub	
		Austromyrtus hillii	Scaly Myrtle	Shrub/tree	
		Babingtonia similis (syn. Baeckea virgata)	Twiggy Baeckea	Shrub	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Myrtaceae	*Backhousia myrtifolia*	Weeping Myrtle	Tree	
		Callistemon salignus	White Bottlebrush	Tree	C RE,F
		Callistemon viminalis	Weeping Bottlebrush	Shrub/tree	C RE,F
		Corymbia citriodora	Spotted Gum	Tree	
		Corymbia gummifera	Red Bloodwood	Tree	
		Corymbia intermedia	Pink Bloodwood	Tree	
		Eucalyptus acmenoides	White Mahogany	Tree	
		Eucalyptus carnea	Broad leaved White Mahogan	Tree	
		Eucalyptus crebra	Narrow leaf Ironbark	Tree	
		Eucalyptus grandis	Flooded gum	Tree	
		Eucalyptus microcorys	Tallowwood	Tree	C, REF
		Eucalyptus pilularis	Blackbutt	Tree	C, REF
		Eucalyptus propinqua	Grey Gum	Tree	C RE, F
		Eucalyptus resinifera	Red Mahogany	Tree	
		Eucalyptus siderophloia	Qld Grey Ironbark	Tree	
		Eucalyptus tereticornis	Forest Red Gum	Tree	
		Eucalyptus tindaliae	Q White Stringybark	Tree	
		Eucalyptus torelliana	Cadagai	Tree	* Nth Q
		Eugenia uniflora	Brazil Cherry	Shrub	*
		Leptospermum polygalifolium	Wild May	Shrub	C RE,F
		Lophostemon confertus	Brush Box	Tree	C RE,F
		Lophostemon suavolens	Swamp Brush Box	Tree	
		Melaleuca linariifolia	Flax Leaf Paperbark	Tree	C RE,F
		Melaleuca quinquenervia	Broad leaved Paperbark	Tree	
		Pilidiostigma glabrum	Plum Myrtle	Shrub/tree	
		Psidium guajava	Guava	Tree/shrub	*
		Rhodamnia maideniana	Smooth Scrub Turpentine	Tree	2RC
		Rhodamnia rubescens	Scrub Turpentine	Shrub/tree	
		Rhodomyrtus psidioides	Native Guava	Tree	
		Schizomeria ovata	Crabapple	Shrub/tree	
		Syncarpia glomulifera	Turpentine	Tree	
		Syzygium australe	Brush cherry	Tree	
		Syzygium francisii	Giant Water Gum	Tree	
		Syzygium leuhmannii	Riberry	Tree	
		Syzygium moorei	Rose apple/Durobby	Tree	2VCi
		Syzygium oleosum	Blue Lilly Pilly	Tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
63	Nephrolepidaceae	*Arthopteris tenella*		Fern	
		Nephrolepsis cordifolia	Fishbone fern	Fern	*
64	Nymphaeaceae	*Nymphaea caerulea*	Blue Water lily	Herb	*
		Nymphaea capensis	Cape Water Lily	Herb	*
65	Ochnaceae	*Ochna atropurpurea*	Mickey Mouse Plant	Shrub	*
66	Oleaceae	*Ligustrum lucidum*	Large Leaf Privet	Shrub	*
		Ligustrum sinense	Small Leaf Privet	Shrub	*
		Notelaea johnsonii	Veinless Mock Olive	Tree/shrub	
		Notelaea longifolia	Large Mock Olive	Tree/shrub	
		Notelaea ovata	Mock Olive	Tree/shrub	
		Olea paniculata	Native Olive	Tree	
67	Onagraceae	*Ludwidgia octovalvis*	Willow Primrose	Shrub	
		Ludwidgia peploides	Water Primrose	Herb	*
68	Orchidaceae	*Cymbidium sp ind.*		Herb	C RE
69	Passifloraceae	*Passiflora aurantia*	Blunt leaf Passionfruit	Vine	*
		Passiflora edulis	Black Passionfruit	Vine	*
		Passiflora suberosa	Corky passionflower	Vine	*
		Passiflora subpeltata	White Passionfruit	Vine	*
70	Peperomiaceae	*Peperomia leptostachya*	Native Peperomia	Herb	
71	Philesiaceae	*Eustrephus latifolius*	Wombat Berry	Herb	
		Geitonoplesium cymosum	Scrambling Lily	Herb	
72	Phylidraceae	*Phylidrum languinosum*	Woolly Frogsmouth	Herb	
73	Phytolaccaceae	*Phytolacca octandra*	Inkweed	Herb	*
74	Pinaceae	*Pinus elliottii*	Slash Pine	Tree	*
75	Pittosporaceae	*Billardiera scandens var. sericata*	Common Apple-Berry	Vine	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
		Bursaria spinosa	Prickly Pine	Shrub	C RE,F
		Citriobatus pauciflorus	Orange Thorn	Shrub	
		Pittosporum revolutum	Hairy Pittosporum	Shrub	
		Pittosporum undulatum	Native Daphne	Tree	
76	Plantaginaceae	*Plantago gaudichaudii*	Plantain	Herb	*
77	Poaceae	*Andropogon virginicus*	Whiskey Grass	Herb	*
		Axonopus affinis	Carpet grass	Herb	*
		Brachiaria mutica	Para grass	Herb	*
		Bromus uniloides	Prairie Grass	Herb	
		Chloris gayana	Rhodes Grass	Herb	*
		Cymbopogon refractus	Barbed Wire Grass	Herb	
		Cynodon dactylon	Couch	Herb	
		Digitaria didactyla	Blue Couch	Herb	
		Entolasia stricta	Wiry Panic	Herb	
		Eragrostis tenuifolia	Elastic Grass	Herb	
		Imperata cylindrica var *major*	Blady Grass	Herb	
		Microlaena stipoides	Weeping Grass	Herb	
		Oplismenus aemulus	Oplismensus	Herb	
		Ottochloa gracillima	Ottochloa	Herb	
		Panicum maximum	Guinea Grass	Herb	*
		Panicum pygmaeum	Feather Grass, Dwarf Panic	Herb	*
		Paspalum dilatatum	Paspalum	Herb	*
		Paspalum distichum	Water Couch	Herb	
		Pennisetum clandestinum	Kikuyu Grass	Herb	*
		Phragmites australis	Common Reed	Herb	
		Setaria verticilliata	Whorled Pigeon Grass	Herb	*
		Sporobolus elongatus	Slender Rats-tail Grass	Herb	*
		Sporobolus virginicus	Salt Couch	Herb	
		Stipa pubescens	Tall Spear grass	Herb	
		Themeda triandra	Kangaroo Grass	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
78	Polygonaceae	*Persicaria decipiens*	Slender Knotweed	Herb	
79	Polypodiaceae	*Platycerium bifurcatum*	Elkhorn Fern	Fern	
		Platycerium superbum	Staghorn	Fern	
		Pyrrosia confluens	Rock Felt fern	Fern	
		Pyrrosia rupestris	Rock Felt-fern	Fern	
80	Proteaceae	*Grevillea robusta*	Silky Oak	Tree	
		Hakea florulenta	Hakea	Shrub	
		Helicia ferruginea	Rusty Helicia	Tree	3RC
		Lomatia silaifolia	Crinkle Bush	Shrub	C RE, F
		Persoonia cornifolia	Broad leaved Geebung	Shrub	
		Persoonia tenuifoila	Fine leaf Geebung	Shrub	
81	Rhamnaceae	*Alphitonia excelsa*	Red Ash	Tree	
82	Rosaceae	*Eriobotrya japonica*	Loquat	Tree	*
		Raphiolepsis indica	Indian Hawthorn	Shrub	*
		Rubus hillii	Molucca Bramble	Vine	
		Rubus moluccanus	Molucca Rasberry	Vine	
		Rubus rosifolius	Rose-leaf Bramble	Vine	
83	Rubiaceae	*Atractocarpus chartaceus*	Narrow leafed Gardenia	Shrub	
		Canthium buxifolium	Stiff Canthium	Shrub	
		Morinda jasminoides	Morinda	Shrub/vine	
		Psychotria daphnoides	Smooth Psychotria	Shrub	
		Psychotria loniceroides	Hairy Psychotria	Shrub	
84	Rutaceae	*Acronychia laevis*	Glossy Acronychia	Shrub/tree	
		Bosistoa pentacocca	Fern leaf Bosistoa	Tree	
		Citrus limon	Lemon tree	Tree/shrub	*
		Flindersia australis	Teak	Tree	
		Flindersia bennettiana	Bennet's Ash	Tree	
		Flindersia schottiana	Cudgerie	Tree	
		Flindersia xanthoxyla	Yellow wood	Tree	
		Medicosma cunninghamii	Pinkheart	Shrub/tree	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
	Rutaceae	*Melicope elleryana*	Pink Euodia	Tree	
		Pentaceras australis	Penta Ash	Tree	
		Zanthoxylum brachyanthum	Thorny Yellowwood	Tree	
		Zieria smithii	Sandfly Zieria	Shrub	
85	Sapindaceae	*Alectryon subcinerius*	Birds Eye	Tree	
		Alectryon tomentosus	Hairy Aletryon	Tree	
		Arytera divaricata	Coogera/Rose Tamarind	Tree	
		Atalaya multiflora	Broad Leaved Whitewood	Tree	
		Castanospora alphandii	Brown Tamarind	Tree	
		Cupaniopsis anacardioides	Tuckeroo	Tree	
		Cupaniopsis newmanii	Long leaf Tuckeroo	Tree	2RC
		Cupaniopsis parvifolia	Small leaf Tuckeroo	Tree	
		Cupaniopsis serrata	Smooth Tuckeroo	Tree	
		Dodonea triquetra	Native Hops Bush	Shrub	
		Elattostachys nervosa	Beetroot	Tree	
		Guioa semiglauca	Guioa	Tree	
		Harpulia pendula	tulipwood	Tree	
		Jagera pseudorhus	Foambark	Tree	
		Koelreuteria panniculata	Golden Rain Tree	Tree	*
		Lepiderema pulchella	Fine leaf Tuckeroo	Tree	2RC
		Mischocarpus anodontus	Veiny Pear-fruit	Tree	
		Mischocarpus pyriformis	Woolly Pear-fruit	Tree	
		Rhysotoechia bifoliolata	Two-leaved Tuckeroo	Tree	
		Sarcopteryx stipata	Corduroy Tree	Tree	
		Toechima dasyrrache	Blunt leaved Steelwood	Tree	
		Toechima tenax	Toechima	Tree	
86	Schizeaeceae	*Cheilanthes sieberi*	Mulga Fern	Fern	
87	Smilacaceae	*Ripogonum album*	White Supplejack	Vine	
		Ripogonum discolor	Prickly Supplejack	Vine	
		Smilax australis	Austral Sarsparilla	Vine	
		Smilax glycophylla	Sweet Sarsparilla	Vine	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
88	Solanaceae	*Solanum capsicoides*	Devil's Apple	Shrub	*
		Solanum mauritianum	Wild Tobacco	Shrub/Tree	*
		Solanum nigrum	Blackberry Nightshade	Herb	*
		Solanum seaforthianum	Climbing Nightshade	Vine	
		Solanum stelligerum	Star Nightshade	Shrub	
89	Sterculiaceae	*Argyrodendron actinophyllum*	Black Booyong	Tree	
		Brachychiton acerifolium	Flame Tree	Tree	
		Brachychiton populneus	Kurrajong	Tree	
		Commersonia bartramia	Brown Kurrajong	Tree	
		Sterculia quadrifida	Red-fruited Kurrajong	Tree	
90	Stylidiaceae	*Stylidium graminifolium*	Trigger Plant	Herb	C RE,F
91	Thelypteridaceae	*Christella dentata*	Binung	Fern	
92	Thymelaceae	*Pimelea latifolia*	Rice Flower	Shrub	
		Pimelea linifolia	Slender Rice Flower	Shrub	C RE,F
		Wikstroemea indica	Tie-bush	Shrub	
93	Tiliaceae	*Grewia latifolia*	Dogs Balls	Shrub	
94	Typhaceae	*Typha orientalis*	Cumbungi	Herb	
95	Ulmaceae	*Aphananthe phillipensis*	Rough Elm	Shrub/tree	
		Celtis sinensis	Chinese Celtis	Tree	*
		Trema tomentosa	Poison Peach	Shrub/tree	
96	Verbenaceae	*Callicarpa pedunculata*	Velvet Leaf	Shrub	
		Clerodendrum foribundum	Lolly Bush	Shrub/tree	
		Lantana camara	Lantana	Shrub	*
		Lantana montevidensis	Purple Lantana	Shrub	*
		Verbena bonariensis	Purple Top	Herb	*
97	Violaceae	*Hybanthus enneaspermus*	Spade Flower	Herb	
		Viola hederacea	Native Violet	Herb	

No.	FAMILY	GENUS/SPECIES	COMMON NAME	TYPE	STATUS
98	Vitaceae	*Cayratia acris*	Hairy Water Vine	Vine	
		Cayratia clematidea	Slender Grape	Climber	
		Cissus antarctica	Water Vine	Vine	
		Cissus hypoglauca	Five leaf Water Vine	Vine	
		Cissus opaca	Small leaf Water Vine	Vine	
		Tetrastigma nitens	Three-leafed Water Vine	Vine	
99	Xanthorrhoeaceae	*Lomandra filiformis*	Forest Matrush	Herb	
		Lomandra hystrix	Creek Matrush	Herb	
		Lomandra longifolia	Common Mat rush	Herb	
		Lomandra multiflora	Many flowered Matrush	Herb	C RE, F
		Xanthorrhoea macronema	Bottlebrush Grass tree	Shrub	C RE
100	Zingiberaceae	*Alpinea arundelliana*	Small Native Ginger	Herb	
		Alpinea caerulea	Native Ginger	Herb	

EXPLANATION OF CODES

* Denotes introduced plants (some naturalised)

Nature Conservation Legislation

C = Common; R = Rare; V = Vulnerable; E = Endangered; X = Presumed extinct
RE = Restricted Plants
RE, F = Restricted plants where control is for harvesting and trade in cut flowers and foliage only

Rural Lands Protection Act (Declared Plants)

P3 = Plants whose numbers and/or distribution are to be REDUCED throughout the state
P4 = Plants which are PREVENTED FROM SPREADING from places in which they occur in the state

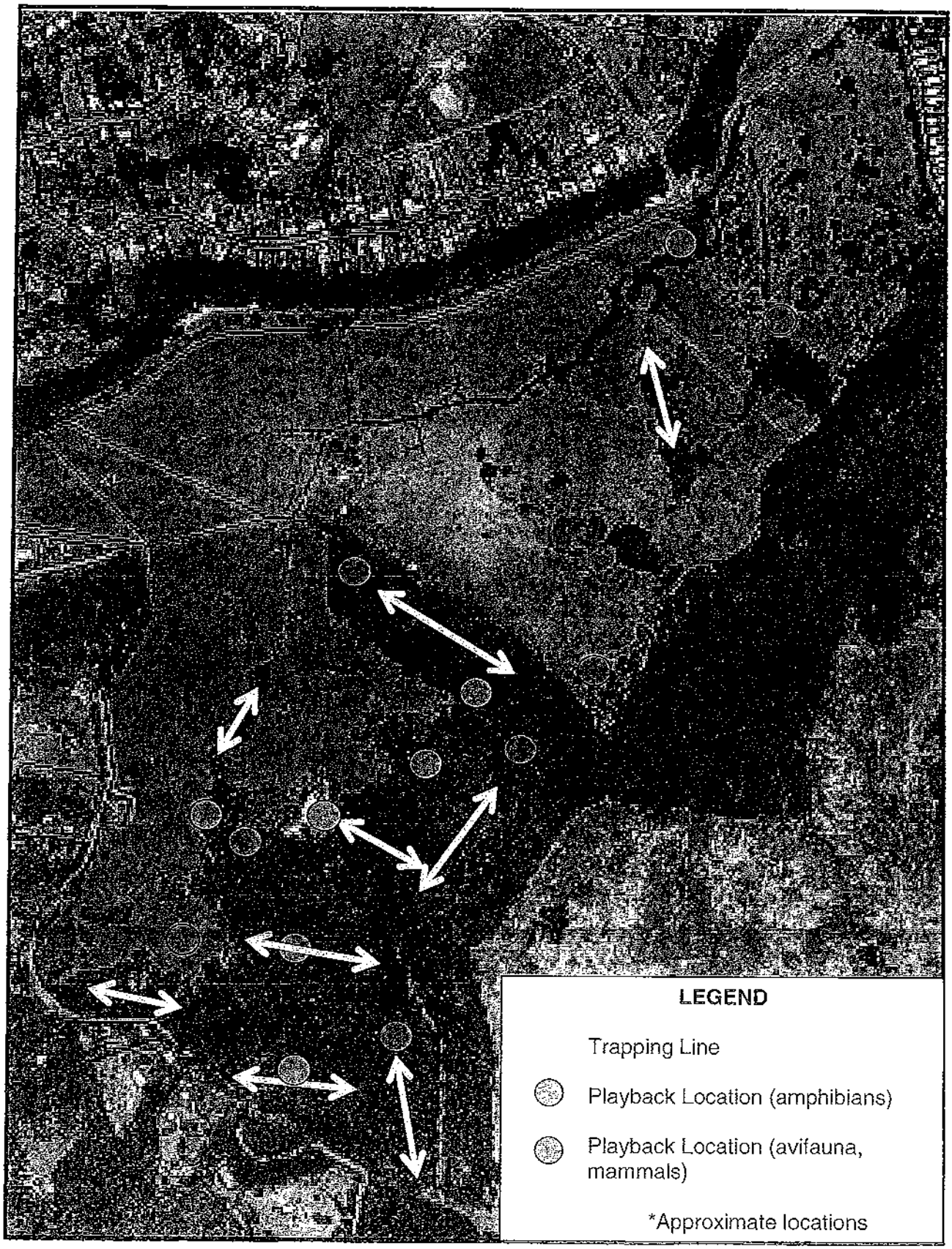
ATTACHMENT 5

SPECIFIC VEGETATION SURVEY AREAS

ATTACHMENT 6

FAUNA SURVEY LOCATION MAPPING


LEGEND
Spotlight/Anabat Trail
*Approximate locations


LEGEND
Trapping Line
Playback Location (amphibians)
Playback Location (avifauna, mammals)
*Approximate locations

ATTACHMENT 7

DISTURBANCE CRITERIA

Level of Disturbance	Classification Criteria
Low	1. High relative abundance and richness of native species typical to the community type present; and 2. Discernable vegetation strata typical to the community type present (Specht, 1981); and 3. Displays features typical of a mature community (Jacobs, 1995. i.e. senescent trees, emergent trees etc); and 4. No/insignificant presence of introduced species within one or more stratum (<5% cover within relevant strata [GCCCNCS, 1998]); and 5. No/insignificant (<5% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing)
Medium	1. Reduced relative abundance and richness of native species typical to the community type present; 2. Strata typical to the vegetation community discernable but not homogeneous; 3. Few features typical of mature community present; 4. Minor-moderate presence of introduced species within one or more stratum (5-20% cover within relevant strata [GCCCNCS, 1998]); 5. Minor-moderate measurable (5-20% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing)
High	1. Significantly reduced relative abundance and richness of native species typical to the community type present; or 2. One or more strata typical to the vegetation community absent or significantly modified (>30% modified (Ecograph, 2001); or 3. Typical features of mature community absent or isolated. High proportion of immature individuals present; or 4. Common presence of introduced species within one or more stratum (>20% cover within relevant strata [GCCNCS, 1998]); or 5. Common measurable (>20% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing).

Level of Disturbance	Classification Criteria
Low	1. High relative abundance and richness of native species typical to the community type present; and 2. Discernable vegetation strata typical to the community type present (Specht, 1981); and 3. Displays features typical of a mature community (Jacobs, 1995. i.e. senescent trees, emergent trees etc); and 4. No/insignificant presence of introduced species within one or more stratum (<5% cover within relevant strata [GCCCNCS, 1998]); and 5. No/insignificant (<5% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing)
Medium	1. Reduced relative abundance and richness of native species typical to the community type present; 2. Strata typical to the vegetation community discernable but not homogeneous; 3. Few features typical of mature community present; 4. Minor-moderate presence of introduced species within one or more stratum (5-20% cover within relevant strata [GCCCNCS, 1998]); 5. Minor-moderate measurable (5-20% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing)
High	1. Significantly reduced relative abundance and richness of native species typical to the community type present; or 2. One or more strata typical to the vegetation community absent or significantly modified (>30% modified (Ecograph, 2001); or 3. Typical features of mature community absent or isolated. High proportion of immature individuals present; or 4. Common presence of introduced species within one or more stratum (>20% cover within relevant strata [GCCNCS, 1998]); or 5. Common measurable (>20% area affected [GCCCNCS, 1998]) impact of anthropogenic disturbance on 1-4 above (i.e. logging, clearing, soil removal, dumping, drainage alteration, recreational disturbance, grazing).

Weathered Howe

WH

- ENGINEERS
- MANAGERS
- PROJECT PLANNERS

GOLD COAST GOLF RESORT
CURRUMBIN

INFRASTRUCTURE SERVICES REPORT

20 APRIL 2004

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APPENDIX A – DRAWING LIST

1.0 PURPOSE

The purpose of this Golf Coast Golf Resort Currumbin Infrastructure Services Report is to review the proposed infrastructure requirements to service the project site located off Currumbin Creek Road and Piggabeen Road, Currumbin Waters.

This report reviews infrastructure works internal to the site and infrastructure works to be provided externally to the project site.

This report makes reference to the Site Based Management Plan that identifies various environmental elements to be monitored and managed through the construction and operation phase of the project.

2.0 DEVELOPMENT DESCRIPTION

2.1 Property Details

- Property Description - Lot 2 RP168012;
  - Lot 1 RP854934;
  - Lot 247 RP854934;
- Area 148.047Ha (approx)
- Location Currumbin Creek Road and Piggabeen Road, Currumbin Waters. The location of the development site is shown on **Drawing G03158E-A00 – Locality Plan.**

2.2 Existing Development

The land has been cleared in part. The current use of the land is small scale grazing, with care of the animals by a farm "manager". Previous uses of the land constructed "farm drains" in the low area of the site. Associated with these drains is a weir and "flap" gate structure to control salt water movement as a back water flow into the low farm area.

The site contains various farm "access tracks".

From the low area of the site the balance of the land rises generally to the New South Wales border situated on the ridge line at the eastern side of the property.

Located on the New South Wales side of the property is a four wheel drive access track utilised for "tick quarantine" inspections.

Part of the property has not been cleared and contains dense vegetation and fauna habitat. Reference to flora and fauna should be made to the Ecological Assessment prepared by Planit Consulting.

2.3 Proposed Development

The proposed development is indicated on the Advanced Concept Plan (based on Hulbert Group 10.11.89 Plan).

The development provides for the following:

• Golf Course and associated facilities	
• Single Family Lots	34
• Various Units	307
• Golf Course 5 Plex	65
• Golf Course Twin Villas	28
• Condominiums	120
TOTAL	**554**
• Hotel 48 dual key	96 Rooms

The development is to be provided under a "community title management scheme". All internal roads, services, communal open space shall be privately owned, operated and maintained. The internal infrastructure shall be designed to have regard to the on site features and intent of the proposed built form.

Residential dwellings shall range from single detached dwellings, attached dwellings and multiple dwellings (units and townhouses). The dwelling design and access-ways shall have specific regard to the site topography. This means retention and augmentation of riparian corridors through adoption of water sensitive stormwater design, sensitive bridge and culvert designs and protection from scour of existing gully formations.

The golf course shall incorporate design parameters for safety and environmental considerations. The golf course design shall not adversely influence flood conveyance, flood storage or flood risk. The finally constructed golf course will create an improved water-way riparian zone.

New infrastructure works external to the site will include roadworks, water supply extensions, sewer extensions, recycled water main extensions, extensions to telecommunication and electricity supply. These services are proposed to be transferred post construction to the relevant supply agency as an agency asset. That is, it is proposed the external infrastructure services will not be "private works", as such, these services will not be maintained by the development Body Corporate(s).

3.0 INFRASTRUCTURE DESIGN GUIDING PRINCIPLES

The guiding principles for the design of the infrastructure services include the following: -

- The existing environmental site features shall influence the road layout and lot configuration. Provision of infrastructure services will need to work with the existing topography and flora and fauna habitat.
- The site development is to proceed under a community management scheme ("group title") with private roads and services in contrast to provision of "publicly owned" roads and services.
- The infrastructure services shall be constructed in stages.
- The infrastructure services will service the lots indicated on the Preliminary Reconfiguration Plan.

4.0 INFRASTRUCTURE SERVICES

Infrastructure services for the development shall be provided in two categories: -

- Infrastructure works internal to the development site; and
- Infrastructure works external to the development site.

4.1 Infrastructure Works Internal to the Project Site

The infrastructure works internal to the site shall be "private" services to be owned, operated and maintained by the Bodies Corporate to be established to manage these assets on behalf of the residents.

4.1.1 Sewerage Reticulation

The existing site topography is suited to gravity sewerage reticulation to service the individual residential lots, townhouses, golf course and hotel facilities. It is proposed to collect the internal sewerage via a gravity sewerage system and discharge to two internal pump stations.

The sewer will then be transported from site to a new pump station proposed to be constructed within lot 3 on RP 82364. This pump station and associated rising main are proposed to be transferred to Council as a Council asset, as the facilities will be located within future open space and existing "public" lands (road reserves). Furthermore future Council assets will be connected to this pump station (amenities building located in the future park).

The indicative internal trunk sewer layout is indicated on **Drawing G03158E-A02 – Indicative Internal Trunk Sewerage Reticulation Layout Plan**.

The "equivalent tenements" (ET) rate for the calculation of water supply and sewerage discharge for the estate is assumed to be as follows:-

• Golf course and associated facilities	(see note (i))	20ET= 20ET
• Hotel Facilities (see note (ii))		20ET = 20ET
• Hotel (Rooms)	96 x 0.35 (ET)	= 33.60ET
• Single Family Lot	37 x 1 (ET)	=37.00ET
• Various Units	307 x 1 (ET)	= 307.00ET
• Golf Course 5 Plex	65 x 1 (ET)	= 65.00ET
• Golf Course Twin Villas	28 x 1 (ET)	= 28.00ET
• Condominiums	120 x 0.55 (ET)	= 66.00ET
	TOTAL (ET)	**= 576.60ET**

In relation to the above calculation for equivalent tenements the following assumptions have been made:-

(i) The final equivalent tenement calculation shall be determined at the detailed design phase of the project.

(ii) The hotel facilities and golf course facilities are an estimate only at this time. The final equivalent tenement shall be determined at the detailed design phase of the hotel and golf course.

(iii) The assumption of the units and townhouses is for each to be a three bedroom equivalent. The final design may result in a combination of three or two bedroom units. This will influence the final equivalent person calculation for the development. If a greater number of two bedroom units are constructed the equivalent person rate for the development will decrease.

4.1.2 Internal Water Supply

Potable water supply for the project shall be drawn from the Council water supply reticulation system external to the site and supplemented from the use of proposed selected dwelling rainwater tanks within the development. The internal water supply mains shall provide potable water supply and fire fighting supply for the estate.

Weathered Howe has requested flow and pressure tests from Council. When available, these tests will assist in the detailed design of the water supply network within the development.

Initial indications are that a development site reservoir and booster pump may be required within the site to provide for fire fighting and potable supply to a portion of the dwellings within the site. The indicative internal trunk water main is indicated on **Drawing G03158E-A03 – Preliminary Trunk Water Reticulation Layout Plan.**

4.1.3 Internal Roadworks and Accessways

Configuration of the primary road accessways within the site have been developed having regard to the following objectives:-

- To provide a road design that "works with" the existing landform topography.
- To provide a design that minimises earthworks "cut or fill" embankments within the site. The purpose is to not detract from the aesthetic qualities of the site and minimise any potential or ongoing scour or land slip problems that may occur within the development road system.
- Internal roadworks standards shall generally conform with Queensland Streets (1993), which are design guidelines for subdivisional street works prepared for the Institute of Municipal Engineers of Australia, Queensland Division.

Queensland Streets guidelines identifies four primary objectives to promote and encourage subdivisional street works design and construction practices which will provide an optimum combination of:-

- Safety
- Amenity
- Convenience; and
- Economy

The development site roadworks have been proposed and shall be refined during the detailed design phase to meet the intent of the "acceptable solutions" criteria provided for in Queensland Streets and to be compatible with the Queensland Streets primary objectives. These roadways are on **Drawing G03158E-A01 – Indicative Roadways and Stormwater Drainage Culvert Layout Plan.**

A comparison of the site design with the Queensland Streets parameters is discussed below:-

Safety

Road Accident Prevention

The approach taken with respect to the project site is to consider the site as having a low speed traffic environment. The desirable maximum speeds for vehicular traffic is proposed to be 30km per hour. The highest acceptable speed shall be taken to be 40 km/hr. It is proposed to reduce the overall vehicular speed environment within the site by reduced length of accessways, the horizontal alignment and where necessary speed control devices to reduce the speed of traffic within the development.

Road grading has been adopted to reduce the impact of "cut or fill" within the project site. The roadways are to be provided with a gradient range as provided in Queensland Streets as follows:-

(i) Desirable gradient not to exceed 12% from a pedestrian walking perspective.
(ii) General maximum grade to be 16%.
(iii) Steeper grades over short lengths absolute maximum grade 20%.
(iv) Minimum grade 0.30%

Drawing G03158E-A020 shows a plan view of the indicative internal feeder roadway chainages.

The longitudinal sections for the internal feeder roadways are indicated on **Drawings G03158E-A06 to Drawing G03158E-A015**.

It is noted on Road 2 between chainage 1690 and 1740 there is proposed to be a concrete driveway minimum 3.5m wide with a vertical curve to extend over 40m with tangent gradients of 25%. There are other small sections of the roadway with gradient near chainage 1860 at 25% grade. In this instance it is to be treated as a Gold Coast City Council standard for a rural lot access track (with gradient up to 25%). It is proposed to have security control gates at either end to control access and limit use of this section of the access roadway. It is proposed the access shall be controlled to a one way system between the activated gates. Access shall be limited to emergency vehicles, and residents and visitors of the single family lots to be located off the "ridge road".

The internal streets will not provide access for a bus route. The city wide bus route is contained in Currumbin Creek Road. The estate is designed as a "community management scheme" estate with private roads and accessways.

Emergency Vehicular Access

The design of the roads shall provide access for emergency vehicles. It is not proposed to have conventional "cul-de-sac" turning areas at the end of all access roadways. Where existing topography allows a limited number of cul-de-sacs shall be provided.

As a general approach the turn manoeuvre at the end of access roads shall be by way of a "three point turn". Parking shall be discouraged in these areas. There will be some access roads where the turn movement will occur before the end of the roadway. This turn area will be located to match existing site topography and vegetation.

Where appropriate, access roads shall connect to the existing "farm tracks". This will provide internal maintenance access for areas in the site and also extend the emergency accessways in designated locations.

It is proposed to provide emergency access through locked security gates at Hoffschildt Drive, Piggabeen Road and from the tick quarantine / fire trail track in New South Wales. These accessways shall be used for emergency access only. The use of these emergency accessways shall be controlled through the Body Corporate Management By-laws.

Road Cross Sections

The width of typical cross section of the internal roadways (excluding the main entry statements) has been reduced to lessen the impact on the existing landscape and future built form. The minimum pavement width is proposed to be 5.5m, except for the controlled single lane accessway. It is proposed to provide sections for passing and parking which will be in areas where topography is suited to these facilities. Refer to **Drawings G03158E-A16 to A18 inclusive** for the typical sections of the internal feeder road accessways. Where excavation is required, it is proposed to face the exposed material with one of the following treatments or combination of treatments:-

(i) Rock/or structural gravity retaining wall;
(ii) Rock "Gabion" or equivalent wall;
(iii) Reinforced earth walls; or
(iv) Structural pile and infill walls.

The treatment of the bulk earthworks "cut or fill" areas shall contain terraces and be vegetated to soften the impact of roadways where the vertical grade of the roads requires a cut profile to retain the slope within acceptable limits. The type of wall shall be selected at the time of detailed civil engineering and geotechnical design.

The total length of the project site access roads is approximately one (1) kilometre shorter than for those roads contained in the approved rezoning plan (Concept Plan 10.11.89 Hulbert Group). This reduces potential impacts on flora, fauna and visual amenity for the estate.

4.1.4 Internal Stormwater Drainage

Stormwater drainage within the site can be categorised in three main areas:-

(i) Communal open space;
(ii) Accessways and dwelling sites; and
(iii) Golf course.

Communal Open Space

The communal open space shall be retained where possible in its current state with minimal structures for stormwater drainage. Small flow swales will be incorporated to reduce stormwater flow to minimise the need for extensive piped systems. Scour protection will be provided where necessary in the base of existing gully systems.

Accessways and Dwelling Sites

Accessways and dwelling sites will be designed to minimise point discharge of stormwater flow and to direct flow through spreader devices where possible to reduce concentration of stormwater flow. The only concentration of stormwater flow will be to scour protected gullies. Rainwater tanks will assist to also reduce the impact of concentration of stormwater flows from dwelling sites.

Water quality is to be managed with a design for buildings with total "at source" control with swales and associated facilities on a single or group house basis.

Bio retention trenches and swales are to be combined with high nutrient uptake vegetation. These will be located to minimise water infiltration to areas where slope instability may result from such increase water infiltration.

Design shall provide for flow spread outlets of all stormwater systems so as not to concentrate stormwater flow.

Roads will generally have one way cross fall. It is proposed to use small collection pipes with drop structure and spreader outlet. Controlled collection and diversion of stormwater drainage will assist with geotechnical stability of roadways where possible drainage shall be directed to existing gullies.

Golf Course

The main strategy is to have water quality control in the golf course area. The long term maintenance of storage areas is to be a commitment of the golf course operations.

4.1.5 Internal Bulk Earthworks

Works on Steep Slopes and Roadways

The existing site characteristics contain steep slopes. Any work in these areas will have due regard to detailed geotechnical investigations to be undertaken as part of the detailed design phase. The works conducted on site will have due regard to the direction of flow and potential concentration of stormwater drainage. In this regard care will be taken to control and manage stormwater flow during the construction phase and for the ongoing operational phase of the development. Stormwater shall be managed to limit scour, erosion and potential land stability problems. These aspects can be managed through sensitive construction techniques.

It is intended to minimise bulk earthworks within the dwelling pad zones for the site. Some road intersections within the site will require earthworks to ensure safe sight distance and crossfall through roundabouts and at roadway intersections.

Works in Golf Course Precinct

The golf course is the main area of the site to be constructed with bulk earthworks. These works shall include creation of reconfigured ponds and swale areas for water quality treatment and waterway streams from the previously constructed farm drains. This means approximately 380m of realigned drain upstream of the main access road the balance 950m shall have edge treatment and re-establish the riparian area. Approximately 280m of the former farm drains down stream of the southern main access road shall be realigned. The balance 500m shall remain in place with edge treatment augmentation.

A portion of the land is situated below the Council ARI 100 year planning flood level. Council information indicates the flood levels vary for the Q_{100} event generally from RL3.34m near the waterway outlet to Currumbin Creek Road in the north of the site and RL3.96m on the southern corner of the site adjacent to Currumbin Creek Road near the intersection of Piggabeen Road.

The bulk earthworks design and detailed design of the golf course by the specialist Golf Course designers will take into consideration the sensitivity of the site location by producing a golf layout that is sympathetic to the natural land form and complements the existing site drainage characteristics. During the detailed design stage, the contours will be designed so that stormwater collected from within the fold course is released from the site at the optimum rate and location to maximise nutrient stripping and containment of silt. As part of the overall drainage philosophy of the course, nutrient stripping ponds will be strategically located throughout the course to assist in the management of nutrients and silt. Detailed design and specification for environmental control measures will be prepared jointly by the specialist golf course designers, the project civil engineers, specialist hydraulic engineers and landscape consultants.

The bulk earthworks within the site shall be conducted in compliance with the suitably qualified flood hydraulic engineer's analysis for the project site. Further details on flood characteristics are contained in the Lawson and Treloar's specialist hydraulic engineers report.

The primary objectives in relation to the design shall be as follows:-

(i) All construction shall be in accordance with the provisions of the 'Site Based Management Plan' (SBMP) developed for the project site.

(ii) Construction activities shall comply, in particular with the finally approved acid sulphate soil management plan element of the SBMP.

(iii) Flood storage within the site shall be maintained for the Q_{20}, Q_{50} and Q_{100} events to ensure there is no increase flooding upstream or downstream, which may adversely affect the use or safety of any surrounding land.

(iv) Any change to ground level within the site shall not cause adverse stormwater drainage impacts on areas external to the site.

(v) Change to ground level below the designated flood level shall not detrimentally affect the flood storage capacity of the catchment and the drainage regime.

(vi) Access to the site via the main entrance roadway is not proposed to be provided above the Q_{100} designated flood level. Access above the Q_{100} level shall be maintained within the project site residential roads.

Access to Currumbin Creek Road above the Q_{100} level is proposed to be achieved at the northern access to the site. This in turn means connectivity to all roads within the site above the Q_{100} level.

It is proposed to provide the main access entrance (southern site entrance) to say ARI 10 year flood immunity. This is generally consistent with the immunity level in Currumbin Creek Road.

An emergency alternative access maybe obtained to Hoffschildt Drive (security gate with controlled emergency access only) for fire and flood emergency access.

(vii) The proposed development shall not result in any afflux or increase in flood velocities outside the site that will have a detrimental influence on premises.

4.1.6 Water Storage and Control Structures

Tidal Control Structure

It is proposed to relocate the existing tidal control weir structure to a position to the north of its current position near the boundary of the site, that is, located near Currumbin Creek. Refer to weir location on **Drawing G03158-A01.** The weir is proposed to be located so as to provide limited tidal influence in the waterway and to assist with the control of local flooding of the golf course. The site is protected from local flooding due to the existing levels of Currumbin Creek Road, except via back up in the tidal constructed drain. The weir will assist with control of the back up of water. The configuration of the weir location shall be the subject of further detailed design to be conducted as part of the bulk earthworks change to ground level application phase of the development.

It will be necessary to apply to the Department of Natural Resources and Mines, for a permit or license pursuant to the Water Act for works in the bed and banks of the riparian zone of the water course. Existing permits and licences shall be reviewed for currency and applicability, and where necessary, application will be made for new permits and licences. The relevant permits and licences will be sought at the detailed operational works Development Permit Phase of the project.

Waterway Control Structure at Access Road

It is proposed to provide a weir (total saltwater bar) at or near the southern main access road that leads from Currumbin Creek Road to the Golf Clubhouse and residential areas.

Storage Ponds

The golf course freshwater storage ponds shall be kept upstream of the main access road. In this way water bodies downstream of the main access road shall have a "marine focus".

Recycled Water Pond

The golf course recycled water storage pond is to be located in a non major flow path area. This pond needs to be bunded to lessen influence of overland flood flow during peak flood events to satisfy Gold Coast City Council recycled water use conditions. The recycled water pond is proposed to be located upstream of the main access road within the golf course catchment away from Currumbin Creek Road.

4.1.7 Recycled Water

The ongoing operation of the golf course will require in the order of one (1) mega litre of water per day to ensure the viability of water supply to the golf course greens and fairways. Use of water within the golf course is proposed to be a combination of retained stormwater and the use of reclaimed and treated recycled water provided by the Gold Coast City Council.

The Gold Coast City Council has taken a strategic position, where it is actively investigating ways to effectively and safely use recycled water from its city wastewater sewerage treatment plants. To maintain quality control on its reclaimed recycled water use, Council requires all users to enter into an agreement to define the terms and conditions under which the reclaimed water may be used. The owners of the golf course/relevant owners of the land, where necessary, shall enter into a formal agreement with the Gold Coast City Council to enable the on-site use of Council's recycled water.

Gold Coast City Council owns and operates water reclamation facilities, which produce recycled water (treated sewerage effluent). Council normally delivers the recycled water from the water reclamation facility to a specified delivery point to enable the customer to draw and use the recycled water for the particular use on the land.

This supply of recycled water is measured at a meter installed by Council at the delivery point.

The use of recycled water within the site will be administered by the terms and conditions of the agreement to be entered into with the Gold Coast City Council. It is normal practice for Council to supply recycled water on the understanding that it is not fit for general contact (drinking, swimming, immersion, washing, toilet flushing and garden watering) and it is also not fit for irrigation of non processed edible crops. This means the receiver of the recycled water may need to apply a further treatment facility to enable the water to be utilized in a manner acceptable to both the Council the Environmental Protection Agency and the user.

It is proposed to draw water from the Council delivery point and store the recycled water within ponds to be constructed within the golf course. If additional treatment is necessary, such treatment will be provided at the pond in accordance with the required treatment. It is proposed to utilize the recycled water within the golf course for irrigation of fairways, tees and greens. The recycled water may be utilised within the balance of the site for watering of open space areas, and may be even be used for fire fighting purposes, subject to relevant approvals.

It is proposed to allow for a booster pump station within the project site to provide for additional pumping of recycled water once it reaches the project site. It may also be necessary to provide for treatment at this point to ensure reasonable quality control of the recycled water. These aspects will be the subject of further detailed design consideration. The recycled water main within the site is initially sized to be a 225mm diameter pressure main.

The recycled water ponds shall be located in the golf course in a position out of the regional flood flow path. The internal recycled water main is indicated on **Drawing G03158E-A05 – Internal Recycled Water Main Layout Plan.**

4.1.8 Internal Electricity and Communications

Underground electricity, street lighting and communication services shall be provided within the project site.

4.1.9 Acid Sulfate Soils Management

The bulk earthworks for the golf course is located in land situated below RL5.0m (AHD), the site topography, position in relation to Currumbin Creek, and known geotechnical nature of soils in the vicinity indicate the presence of acid sulfate soils in the site. The acid sulfate soils on site will be managed in accordance with recommended engineering practice and the QUASIT guidelines.

4.2 Infrastructure Works External to the Project Site

4.2.1 External Sewerage System

The external sewerage system includes a sewer rising main to be constructed from the proposed pump station in Lot 3 on RP82364 to the Gold Coast City Council receiving pump station in Currumbin Creek Road (near the intersection with Stewart Road). This sewer rising main is to be transferred to Gold Coast City Council to form part of its sewer reticulation assets. It is also appropriate that the sewer pump station in Lot 3 on RP82364 be transferred to Council as a Council asset, as it will be available for connection from future Council assets in this portion of the site.

It will also allow future connection by other lots and dwellings in the vicinity. The external sewerage system is indicated on **Drawing G03158E-A04 – External Sewerage Rising and Treated Recycled Water Main Layout Plan.**

4.2.2 External Water Supply

It is proposed to extend the water supply main from the 375mm diameter water main in Galleon Way along Currumbin Creek Road to the northern part of the site. It will also be necessary to extend the existing Council 150mm diameter water main in Piggabeen Road to the southern portion of the site. Both of these connections shall be provided with a water meter. All mains internal to the project site shall be "private mains".

The Gold Coast City Council has identified a future regional water supply reservoir to be located in the land situated between the development site and the New South Wales/Queensland State border. These works have been noted in the Gold Coast City Council Infrastructure Policy. The regional reservoir does not form part of works proposed for the development site.

Ongoing discussions shall be held with Council to determine the timing for construction of the proposed regional reservoir works. If the reservoir is to be built in a time period similar to the development site, it may be prudent to feed part of the project site from any trunk water supply main leading from the new reservoir to be owned and operated by Council.

The other aspect to be considered with any future Council reservoir construction is the proposed access to the reservoir during construction and ongoing operation phases. In this regard it is noted there is no known dedicated access to the state controlled land known as lot 404 WD1633 and lot 395 WD1633.

4.2.3 *External Roadworks*

Connell Wagner Pty Ltd, specialist traffic engineers have conducted a study of the potential impact of the proposed development on the external roadways in the vicinity. Reference is made to the Connell Wagner report for the detailed analysis of works required to intersections in Currumbin Creek Road. This infrastructure report summarises the findings of the Connell Wagner report.

As a condition of the approval for the rezoning plan (Concept Plan 10.11.89 Hulbert Group) a portion for the Currumbin Creek Road frontage of the site was to be dedicated as new road reserve. The new road widening dedication has taken place in compliance with the conditions of approval for the land. The area of road reserve widening is indicated on **Drawing G03158E-A01**.

Four intersections were analysed by the specialist traffic engineers Connell Wagner to determine if further works are required as a result of the development on the project site. Currumbin Creek Road is a State Controlled Road under the jurisdiction of the Department of Main Roads. Works in the road reserve will require consideration and approval by both the Department of Main Roads and the Gold Coast City Council. Three (3) of the intersections in Currumbin Creek Road, where new works will be provided are indicated on **Drawing G03158E-A01**.

The traffic analysis identified the need for the following new works and augmentation works to existing intersections be undertaken;

- **Currumbin Creek Road – Project Site Northern Access Intersection**

  The new northern access intersection to the project site shall provide for a non signalized intersection to allow right turn into the site from northbound travel on Currumbin Creek road, left and right turn out of the project site and left turn southbound to the site from Currumbin Creek Road.

  It is proposed to provide access to the future park (Lot 3 on RP82364) at this Currumbin Creek Road intersection location.

- **Currumbin Creek Road – Project Site Southern Access Intersection**

  The new southern access intersection to the project site (main access) from Currumbin Creek Road is located in a position, which generally aligns with the previous approval requirements of the Department of Main Roads and Gold Coast City Council. This intersection shall be a non signalized "tee" intersection providing right turn northbound into the project site and left turn southbound from Currumbin Creek Road. It will also provide left and right turns for outbound traffic leaving the development.

  The location of the intersection is positioned to minimise the impact on the existing feature trees in this location.

- **Currumbin Creek Road/Galleon Way Intersection**

  Works shall augment the existing Currumbin Creek Road / Galleon Way intersection by constructing a roundabout to allow an effective passing arrangement to be configured between the existing intersection and the bridge.

- **Currumbin Creek Road – Mainsail Street – Bienvenue Drive Intersection**

  Works at the Currumbin Creek Road – Bienvenue Drive intersection will include proposed reconfiguration of the line marking at the intersection to assist traffic movements.

- **Construction Access (Temporary)**

  Temporary construction access will be provided where appropriate to facilitate the safe entry and exit of construction vehicles to and from the site during the bulk earthworks and civil infrastructure services construction. The exact location shall be determined at the detailed design phase associated with the bulk earthworks and civil infrastructure.

4.2.4 External Stormwater Drainage

The only stormwater drainage proposed to be constructed external to the site will be minor works associated with the upgrading of the existing Galleon Way intersection and the new intersections at the development site access points within Currumbin Creek Road. Minor stormwater works will also be required in the park (lot 3 RP82364) in association with the required park infrastructure. These works are identified in the existing rezoning condition numbers 2, 31 and 34.

4.2.5 External Bulk Earthworks

There are no bulk earthworks proposed to be undertaken external to the development site.

4.2.6 External Recycled Water Main

Gold Coast City Council has previously considered the delivery of recycled water to the project site and agreed the delivery route for recycled water main to the site for use within the golf course.

Council has a trunk recycled water pressure main located in the Pacific Motorway road reserve situated some 3.3klms to the north of the project site.

It is considered Council should define the delivery point for the project site as a point located on the northern boundary of the site adjacent to Currumbin Creek Road. In this way the delivery of recycled water to the site would be under the future control of the Gold Coast City Council and a meter could be placed at the northern boundary of the site just off Currumbin Creek Road.

It is proposed to construct a 225mm dia metre pressure main to transport the recycled water from the Pacific Motorway to the development site.

There is a need to review the alignment of the external recycled water rising main to be constructed between the site and the Motorway generally along Currumbin Creek Road and via Michel Drive. It will be necessary to review this alignment to ensure that the former approved alignment of the recycled water main has not been restricted by other works and/or construction of utility services that may have occurred since the approval by Council.

This is a matter for the next phase of design and can be discussed with Gold Coast City Council and Department of Main Roads during the detailed design phase of the development. The external recycled water main is indicated on **Drawing G03158E-A04 – External Sewerage Rising and Treated Recycled Water Main Layout Plan.**

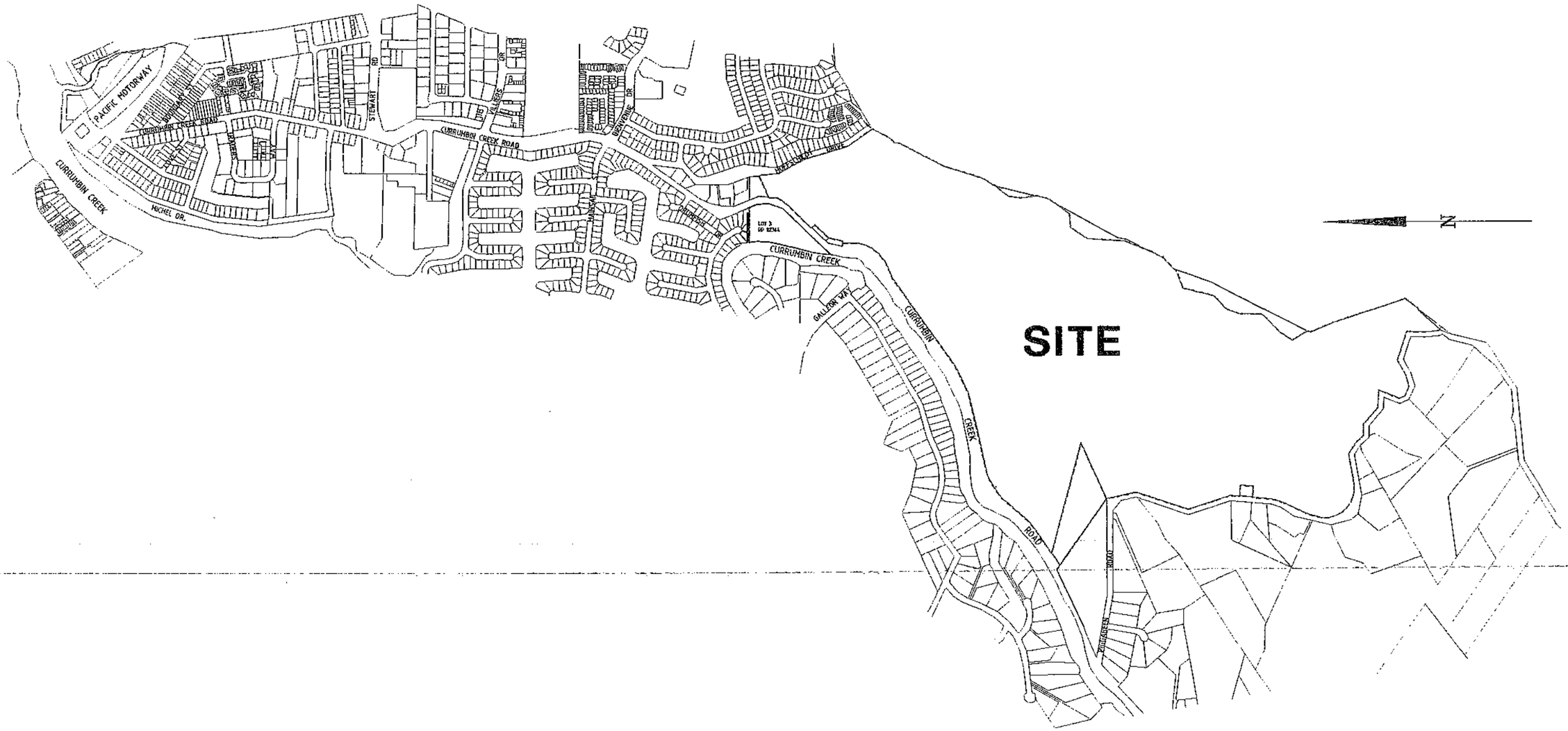
4.2.7 Electricity and Communications

Discussions with Energex have confirmed there is an identified capital works program to provide upgrades with sufficient capacity in the electrical supply network in the vicinity of the project site and that where necessary supply can be upgraded to suit the construction program for the development.

Communications to the site can be made available, or extended from existing services in the vicinity, to service the development when required.

APPENDIX A – DRAWING LIST

G03158E-A00	Locality Plan
G03158E-A01	Indicative Roadways and Stormwater Drainage Culvert Layout Plan
G03158E-A02	Indicative Internal Trunk Sewerage Reticulation Layout Plan
G03158E-A03	Preliminary Trunk Water Reticulation Layout Plan
G03158E-A04	External Sewerage Rising and Treated Recycled Water Main Layout Plan
G03158E-A05	Internal Recycled Water Main Layout Plan
G03158E-A06	Indicative Longitudinal Road Grading Road 1 – Sheet 1 of 3
G03158E-A07	Indicative Longitudinal Road Grading Road 1 – Sheet 2 of 3
G03158E-A08	Indicative Longitudinal Road Grading Road 1 – Sheet 3 of 3
G03158E-A09	Indicative Longitudinal Road Grading Road 2 – Sheet 1 of 4
G03158E-A10	Indicative Longitudinal Road Grading Road 2 – Sheet 2 of 4
G03158E-A11	Indicative Longitudinal Road Grading Road 2 – Sheet 3 of 4
G03158E-A12	Indicative Longitudinal Road Grading Road 2 – Sheet 4 of 4
G03158E-A13	Indicative Longitudinal Road Grading Road 3 – Sheet 1 of 3
G03158E-A14	Indicative Longitudinal Road Grading Road 3 – Sheet 2 of 3
G03158E-A15	Indicative Longitudinal Road Grading Road 3 – Sheet 3 of 3
G03158E-A16	Indicative Road Cross Sections Road 1 – Sheet 1 of 1
G03158E-A17	Indicative Road Cross Sections Road 2 – Sheet 1 of 1
G03158E-A18	Indicative Road Cross Sections Road 3 – Sheet 1 of 1
G03158E-A19	Indicative Sediment and Erosion Control Plan
G03158E-A20	Indicative Roadways and Chainages



A	ORIGINAL ISSUE	J.P.B.	20.04.04
REV	DESCRIPTION	BY	DATE

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CLIENT: DEVINE LIMITED

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ORIGINAL SHEET SIZE: A3

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

Weathered Howe *Engineers*

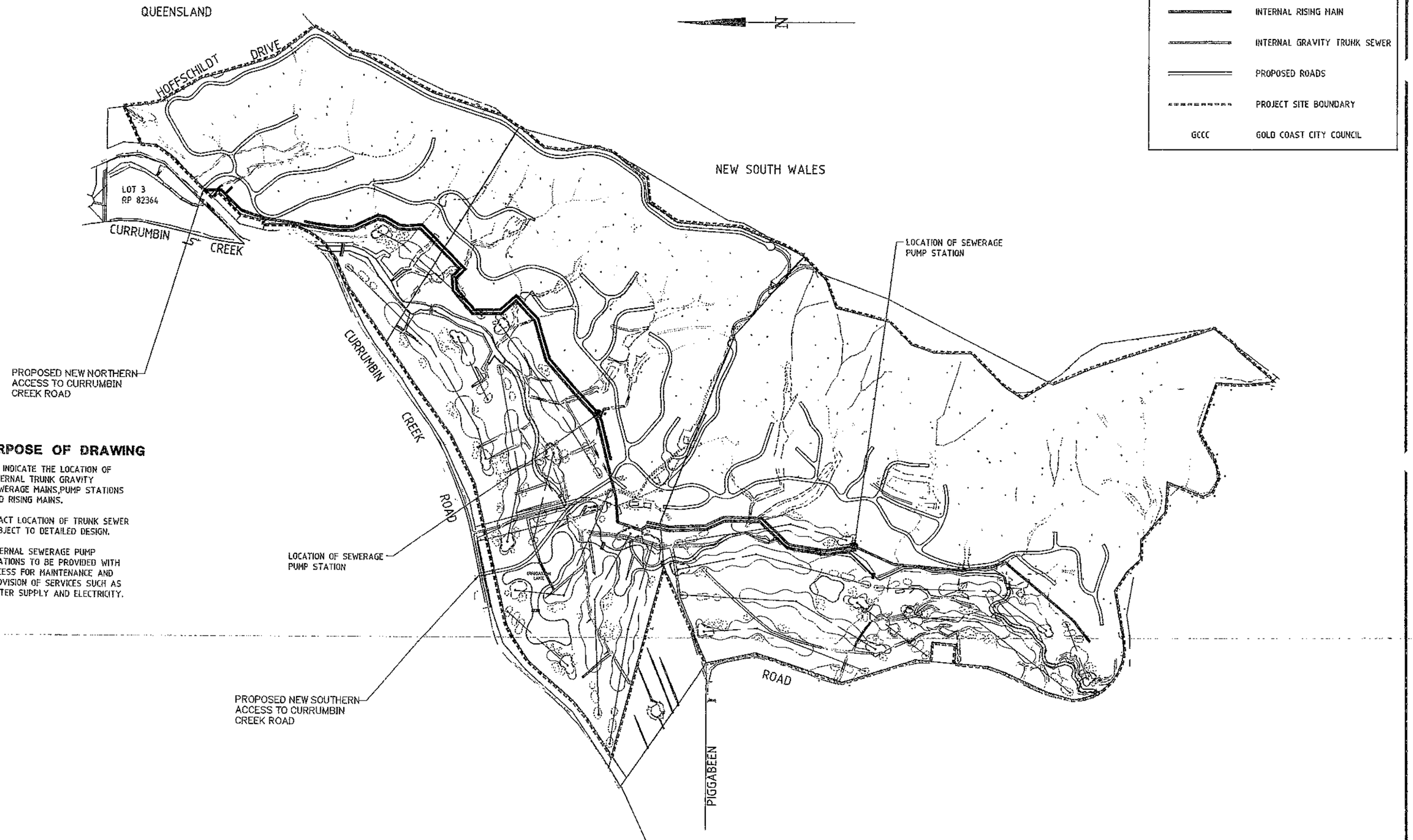
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TITLE: LOCALITY PLAN

REVIEWED		APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY. LTD.) R.P.E.Q. No.	
DESIGNED	S.B.W	DRAWING NUMBER	REVISION
DRAWN	J.P.B.	G03158E-A00	A
DATE	20TH APRIL		



PURPOSE OF DRAWING

1. TO INDICATE THE LOCATION OF INTERNAL TRUNK GRAVITY SEWERAGE MAINS,PUMP STATIONS AND RISING MAINS.
2. EXACT LOCATION OF TRUNK SEWER SUBJECT TO DETAILED DESIGN.
3. INTERNAL SEWERAGE PUMP STATIONS TO BE PROVIDED WITH ACCESS FOR MAINTENANCE AND PROVISION OF SERVICES SUCH AS WATER SUPPLY AND ELECTRICITY.

REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	S.B.W	20.04.04

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SURVEYOR: BENNETT & BENNETT

CLIENT: DEVINE LIMITED

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ORIGINAL SHEET SIZE: A3

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

Weathered Howe Engineers

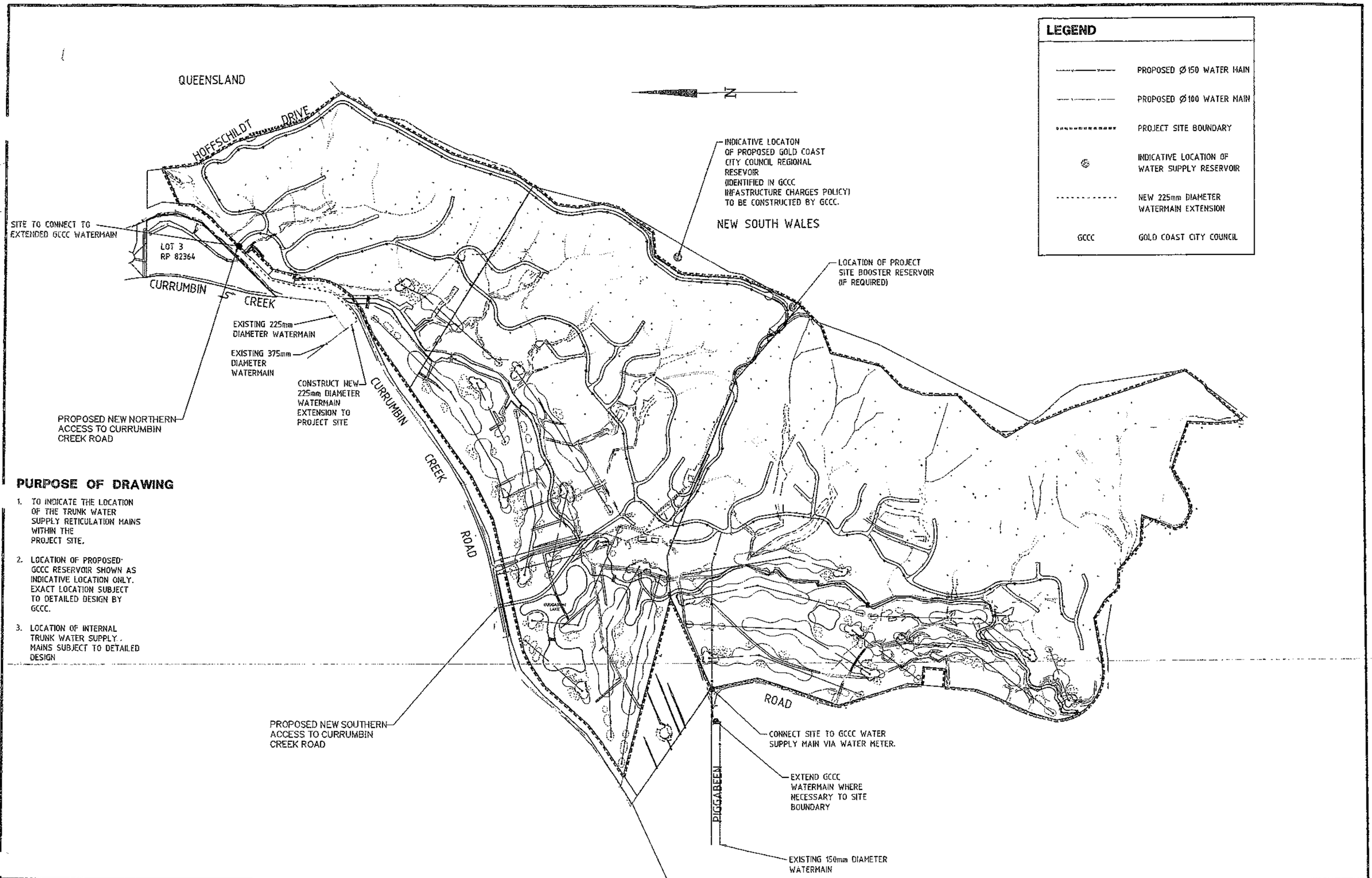
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www.weatherhowe.com

TITLE: INDICATIVE INTERNAL TRUNK SEWERAGE RETICULATION LAYOUT PLAN

REVIEWED		APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY. LTD.) R.P.E.Q. no.	
DESIGNED	S.B.W	DRAWING NUMBER	REVISION
DRAWN	J.P.B.	G03158E-A02	A
DATE			



LEGEND

———	PROPOSED Ø150 WATER MAIN
———	PROPOSED Ø100 WATER MAIN
▪▪▪▪▪▪▪▪	PROJECT SITE BOUNDARY
⊕	INDICATIVE LOCATION OF WATER SUPPLY RESERVOIR
- - - - -	NEW 225mm DIAMETER WATERMAIN EXTENSION
GCCC	GOLD COAST CITY COUNCIL

PURPOSE OF DRAWING

1. TO INDICATE THE LOCATION OF THE TRUNK WATER SUPPLY RETICULATION MAINS WITHIN THE PROJECT SITE.
2. LOCATION OF PROPOSED GCCC RESERVOIR SHOWN AS INDICATIVE LOCATION ONLY. EXACT LOCATION SUBJECT TO DETAILED DESIGN BY GCCC.
3. LOCATION OF INTERNAL TRUNK WATER SUPPLY MAINS SUBJECT TO DETAILED DESIGN

RCY	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	S.B.W	20.04.04

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SURVEYOR: BENNETT & BENNETT

CLIENT: DEVINE LIMITED

SCALE (AT ORIGINAL SHEET SIZE): 50 25 0 50 100 150 1:7,500

ORIGINAL SHEET SIZE: A3

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

Weathered Howe Engineers

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www.weatheredhowe.com

TITLE: PRELIMINARY TRUNK WATER RETICULATION LAYOUT PLAN

REVIEWED:

APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY LTD.)
R.P.E.Q. No.

DESIGNED	S.B.W
DRAWN	J.P.B.
DATE	20TH APRIL

DRAWING NUMBER: G03158E-A03

REVISION: A

PURPOSE OF DRAWING

1. TO INDICATE THE LOCATION OF THE PROPOSED TREATED SEWER RECYCLED WATER MAIN TO TRANSPORT RECYCLED WATER SUPPLIED BY GOLD COAST CITY COUNCIL FOR USE ON THE PROJECT GOLF COURSE AND APPROVED OPEN SPACE AREAS.

2. ALIGNMENT OF MAINS SUBJECT TO DETAILED DESIGN, EXISTING UTILITY SERVICE LOCATION AND INPUT FROM RELEVANT SERVICE PROVIDERS.

3. TO INDICATE WHERE POSSIBLE NEW SEWERAGE RISING MAIN AND RECYCLED WATER MAIN TO BE LOCATED IN A COMMON TRENCH.

4. TO NOTE THE NEW SEWERAGE PUMP STATION, SEWERAGE RISING MAIN AND TREATED RECYCLED WATER MAINS TO BE TRANSFERRED TO GCCC.

LEGEND

	PROJECT SITE BOUNDARY
	EXTERAL TREATED RECYCLED WATER MAIN (FUTURE GCCC)
	EXTERAL SEWER RISING MAIN (FUTURE GCCC)
	EXISTING GCCC TRUNK RECYCLED WATER MAIN
●	PROPOSED SEWERAGE PUMP STATION (FUTURE GCCC)
GCCC	GOLD COAST CITY COUNCIL

N

PACIFIC MOTORWAY

LOT 1 RP 82364 BOUNDARY

CURRUMBIN CREEK ROAD

FAIRFIELD AVE

LENNARD CRE

STEWART RD

VILLIERS DR

RAIDERS WAY

LOVE ST

ST

NUBAN ST

DR

BIENVENUE DR

HOFFMAN DRIVE

CURRUMBIN CREEK

MICHEL DR.

DAVALL

BRADSHAW

MAINSAIL

DRUMFISH DR

PROPOSED SEWERAGE PUMP STATION LOT 3 RP 82364

CURRUMBIN CREEK

GALLEON WAY

CONNECT NEW SEWERAGE RISING MAIN TO EXISTING GOLD COAST CITY COUNCIL SEWER PUMP STATION

CONNECT NEW RECYCLED WATER MAIN TO EXISTING GOLD COAST CITY COUNCIL TRUNK RECYCLED WATER MAIN

PROPOSED NEW NORTHERN INTERSECTION ACCESS TO CURRUMBIN CREEK ROAD

REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	S.B.W	20.04.04

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SURVEYOR: BENNETT & BENNETT

CLIENT: DEVINE LIMITED

SCALE (AT ORIGINAL SHEET SIZE): 50 25 0 50 100 150 1:1,500

ORIGINAL SHEET SIZE: A3

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

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TITLE: EXTERNAL SEWERAGE RISING, & TREATED RECYCLED WATER MAIN LAYOUT PLAN

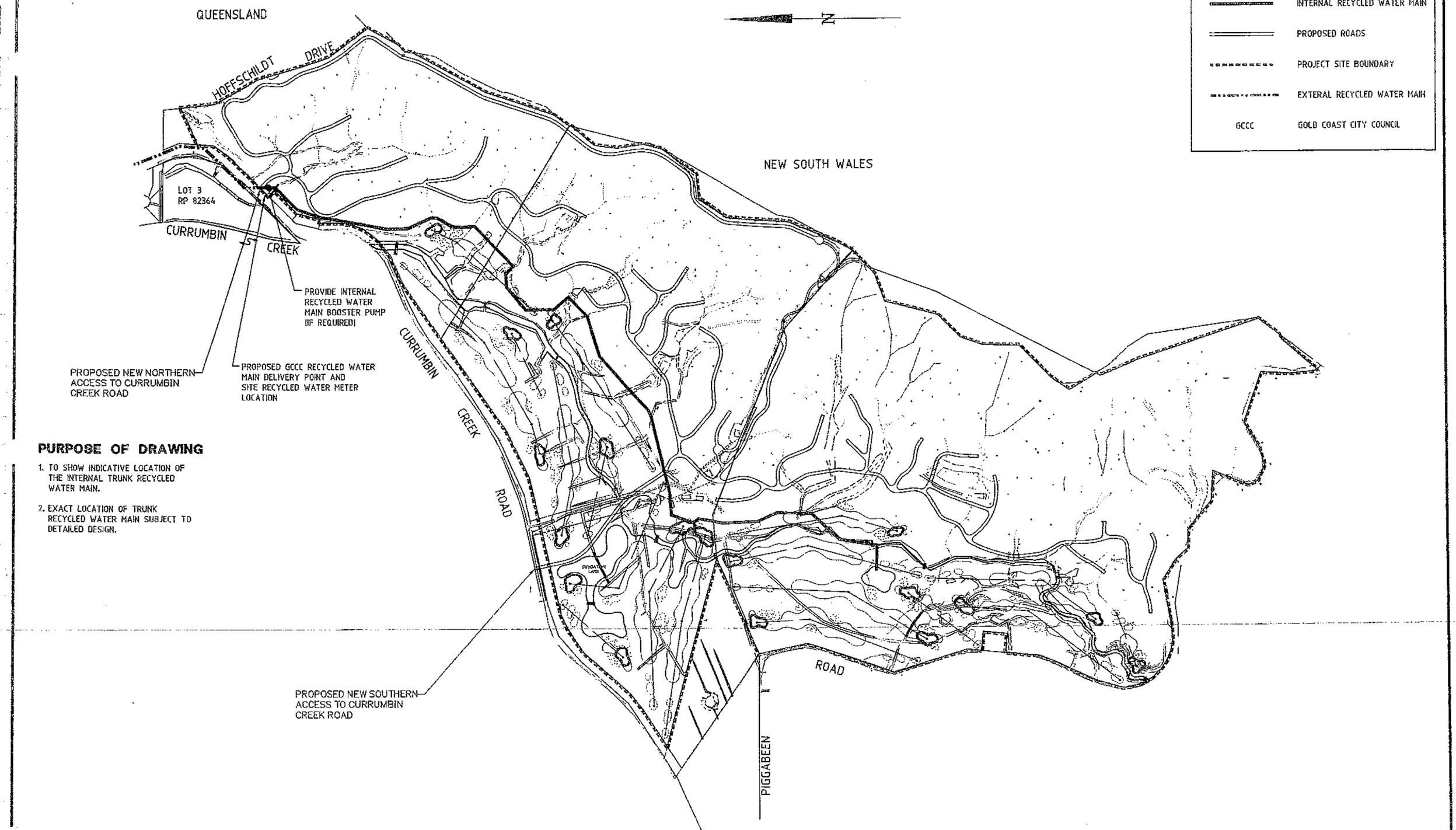
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R.P.E.Q. No.

DESIGNED	S.B.W
DRAWN	J.P.B.
DATE	20TH APRIL

DRAWING NUMBER: G03158E-A04

REVISION: A



PURPOSE OF DRAWING

1. TO SHOW INDICATIVE LOCATION OF THE INTERNAL TRUNK RECYCLED WATER MAIN.
2. EXACT LOCATION OF TRUNK RECYCLED WATER MAIN SUBJECT TO DETAILED DESIGN.

REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	S.B.W	20.04.04

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CLIENT: DEVINE LIMITED

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ORIGINAL SHEET SIZE: A3

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

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Email: wbris@weh.com.au

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TITLE: INTERNAL RECYCLED WATER MAIN LAYOUT PLAN

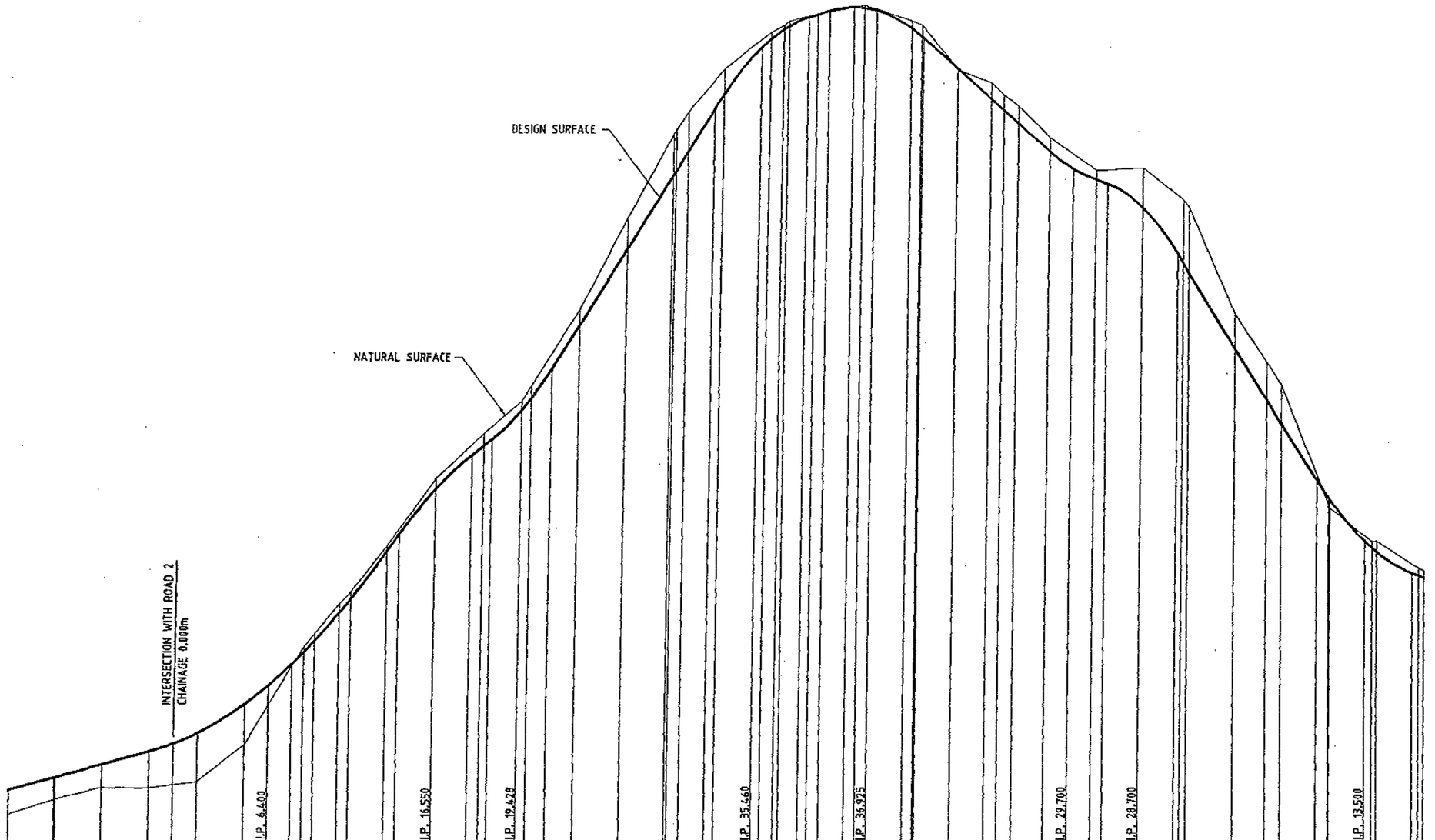
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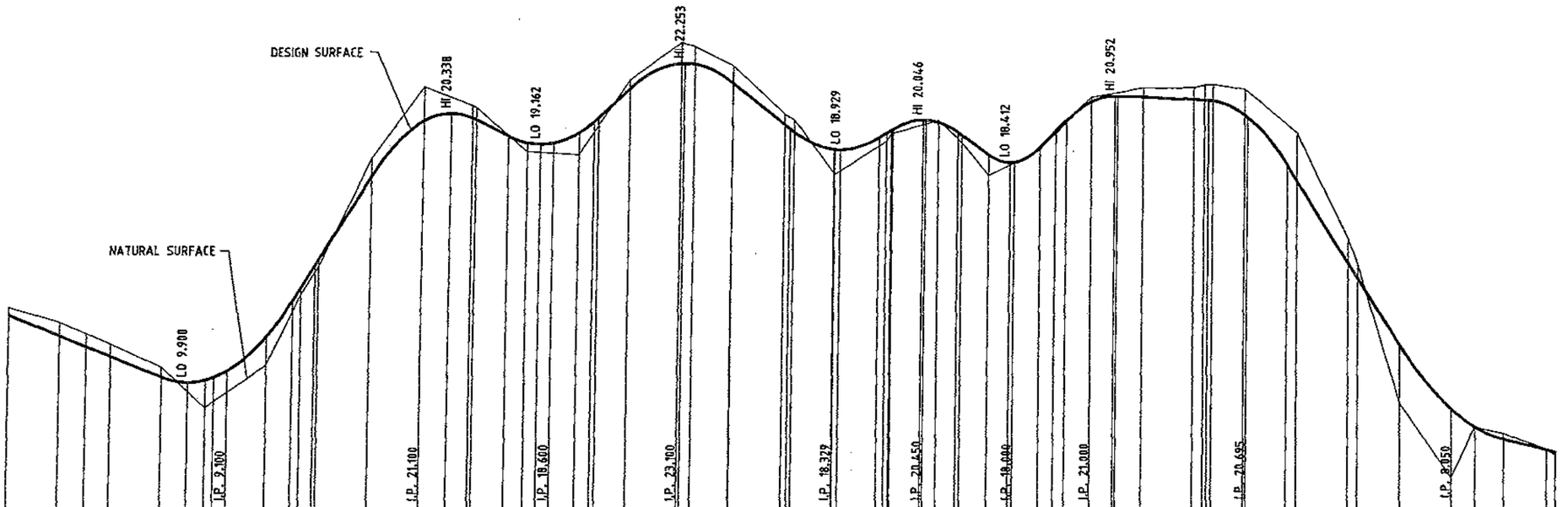
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DATE	

DRAWING NUMBER: G03158E-A05

REVISION: A

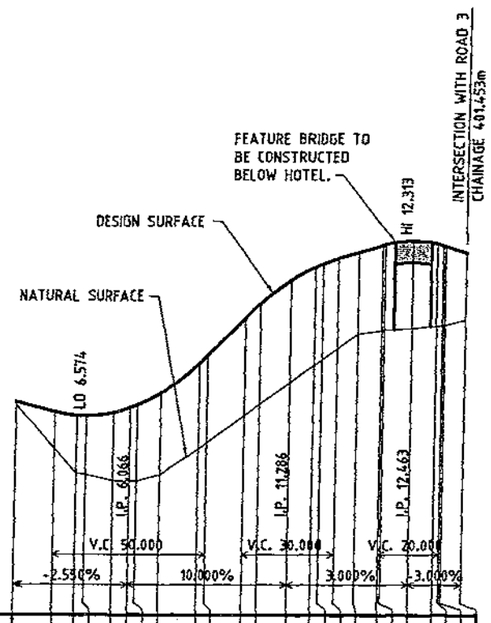

DESIGN SURFACE
NATURAL SURFACE
INTERSECTION WITH ROAD 2
CHAINAGE 0.000m
I.P. 6.400
I.P. 16.550
I.P. 19.428
I.P. 35.460
I.P. 36.925
I.P. 29.700
I.P. 28.700
I.P. 13.500
V.C. 100.000
V.C. 30.000
V.C. 25.000
V.C. 40.000
V.C. 40.000
V.C. 20.000
V.C. 30.000
V.C. 40.000
2.818%
14.500%
8.000%
16.000%
3.000%
8.500%
-3.333%
-6.800%
-4.000%
DATUM R.L. -2.000m

| | | |

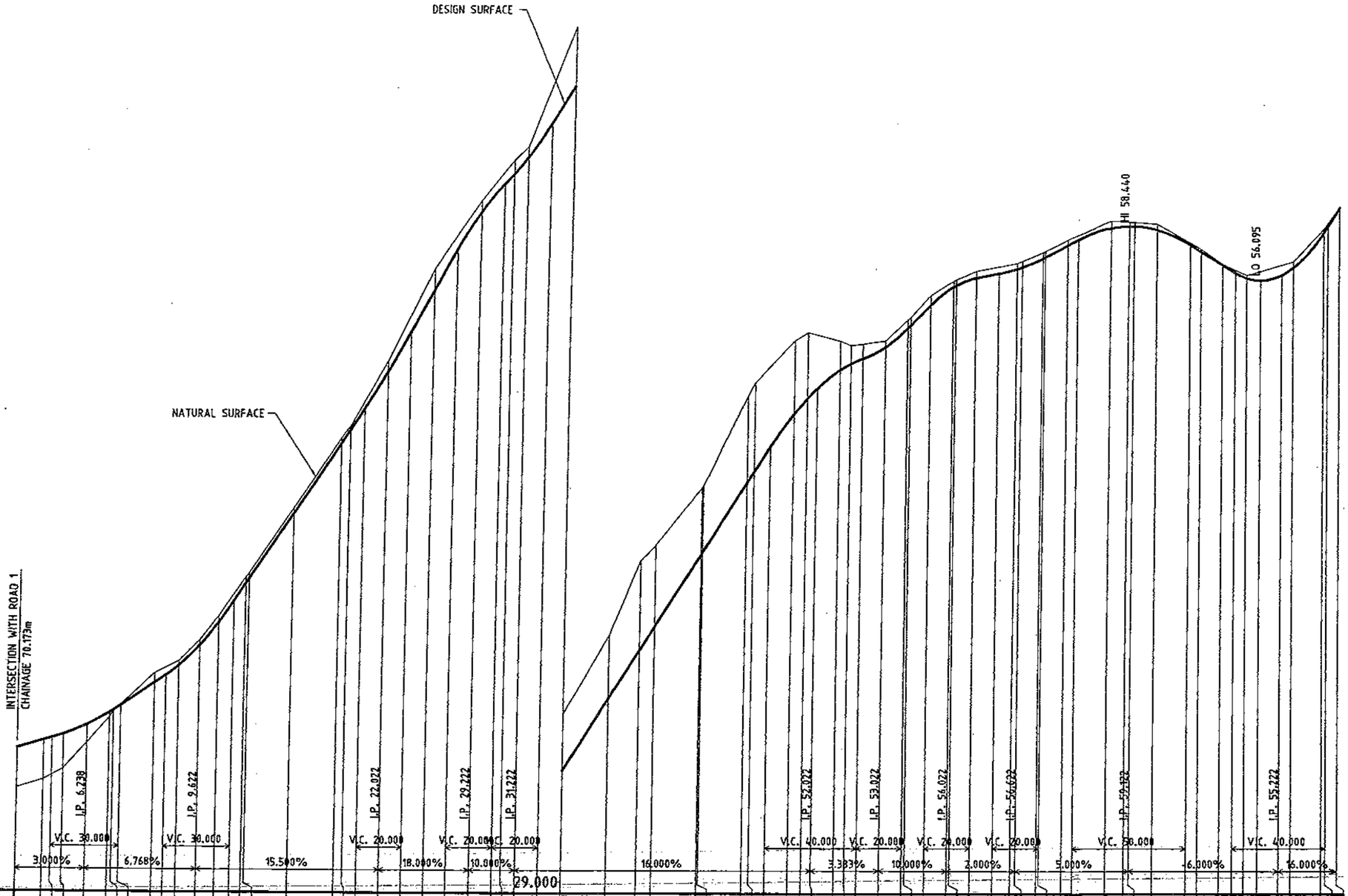


DATUM R.L. 2.000m

| | | |


FEATURE BRIDGE TO
BE CONSTRUCTED
BELOW HOTEL.
DESIGN SURFACE
NATURAL SURFACE
HI 12.313
INTERSECTION WITH ROAD 3
CHAINAGE 401.453m
LO 6.574
I.P. 6.066
I.P. 11.286
I.P. 12.663
V.C. 50.000
V.C. 30.000
V.C. 20.000
-2.550%
10.000%
3.000%
-3.000%
DATUM R.L. 0.000m

| | | |



DATUM R.L. -1.000m

PEGGED CHAINAGE	CUT/FILL DEPTH	DESIGN SURFACE	NATURAL SURFACE
0.000	+1.770	5.338	3.568
11.416	+1.750	5.680	3.930
15.000	+1.547	5.788	4.241
20.000	+1.541	5.954	4.413
30.000		6.379	
40.000	-0.223	6.931	6.707
41.826	+0.069	7.045	6.975
45.000		7.253	
60.000	-0.436	8.268	8.705
65.000		8.697	
70.771	-0.196	9.046	9.242
80.000	-0.233	9.849	10.183
88.200	-0.294	10.760	11.254
95.000	-0.267	11.947	12.389
100.000	-0.272	12.722	13.177
101.340	-0.246	12.930	
120.000	-0.248	15.822	16.070
140.000	-0.245	18.922	19.167
143.808	-0.471	19.512	19.683
150.000		20.472	
160.000	-0.471	22.084	22.555
170.000		23.822	
180.000	-0.833	25.622	26.555
190.000		27.422	
200.000	-0.498	29.022	29.520
210.000	-0.586	30.222	31.232
213.997	-0.646	30.846	31.839
220.000	-0.467	31.372	
230.000	-2.539	32.822	35.941
240.000	-2.828	34.422	37.622
260.000	-2.828	37.622	40.450
273.454	-4.001	39.775	43.776
280.000	-3.632	40.822	44.454
300.000	-2.992	44.022	47.014
300.743	-2.970	44.141	47.111
320.000	-3.822	47.222	51.044
323.626	-3.938	47.706	51.644
329.000		48.822	
340.000	-3.222	50.264	53.486
345.668	-2.885	50.940	53.825
350.000		51.389	
350.000	-1.258	52.197	53.455
364.639	-0.750	52.664	53.254
370.000		52.689	
380.000	-0.268	53.189	53.457
390.000	-0.338	54.022	54.491
391.314	-0.432	54.953	55.454
400.000		55.022	
410.000	-0.262	55.822	56.146
411.071	-0.274	55.884	56.216
420.000		56.222	56.516
430.000	-0.237	56.622	56.860
437.773	-0.247	56.953	57.339
440.000		57.078	
449.104	-0.261	57.122	57.853
450.000	-0.231	57.622	57.872
460.000		57.822	
465.000	-0.310	58.374	58.685
480.000		58.440	
487.727	-0.256	58.434	58.530
490.000		58.275	
500.000	-0.127	57.622	57.449
515.000	-0.037	57.322	56.797
520.000	-0.127	56.422	56.317
528.352		56.191	
535.000	-0.256	56.322	56.897
540.000	-0.165	56.641	58.297
545.909	-0.034	58.131	59.256
555.000		58.622	
560.000		59.222	
573.123			
575.000			
580.000			

REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	S.B.W	20.04.06

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SURVEYOR
BENNETT & BENNETT

SCALE (AT ORIGINAL SHEET SIZE)
HORIZ 10 0 10 20 30 40 50 1:1000
VERT 1 0 1 2 3 4 5 1:100

ORIGINAL SHEET SIZE
A1

CLIENT
DEVINE LIMITED

ARCHITECT
M.L. DESIGN

PROJECT
GOLD COAST GOLF RESORT
CURRUMBIN

Weathered Howe *Engineers*

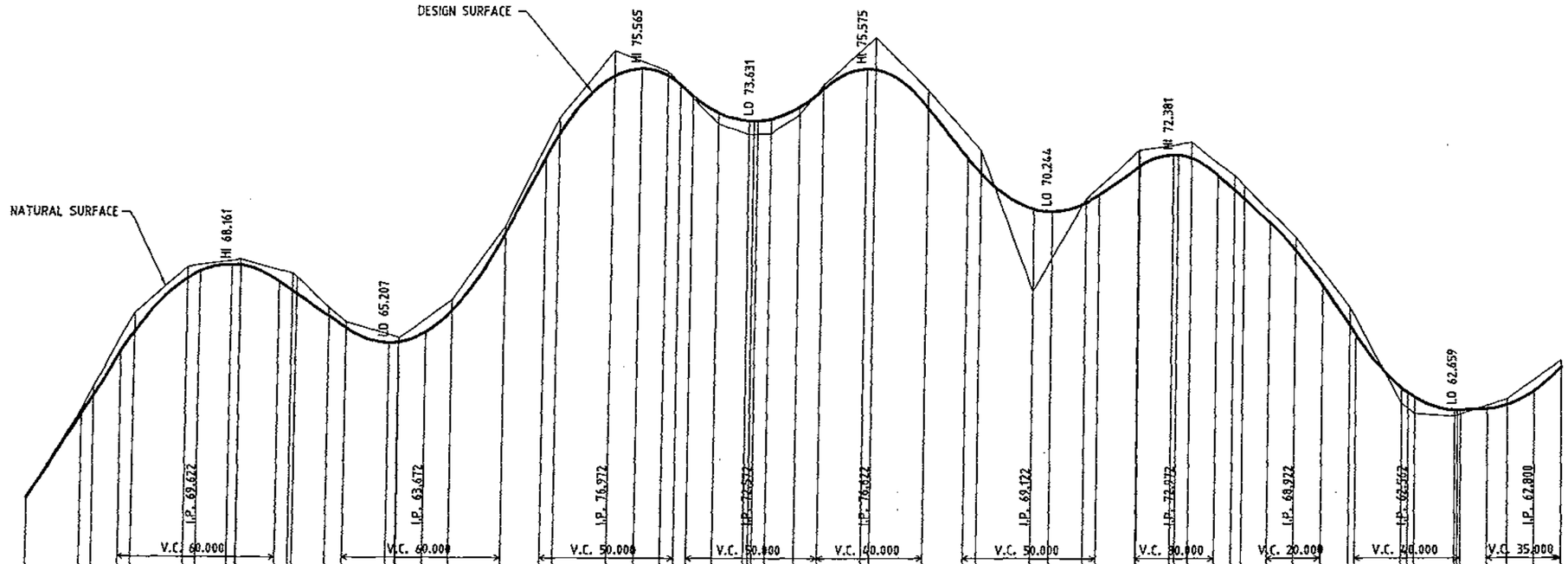
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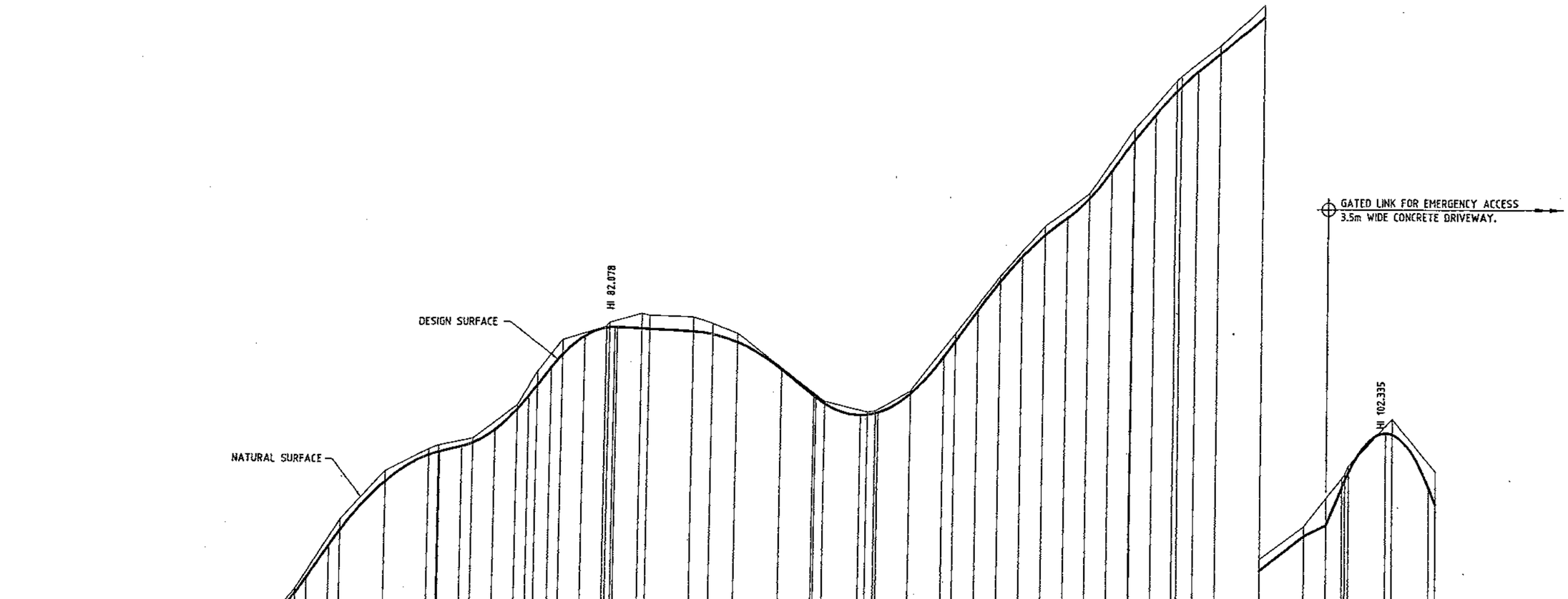
TITLE
INDICATIVE LONGITUDINAL ROAD GRADING
ROAD 2 - SHEET 1 OF 4

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	R.P.E.Q. No.
DESIGNED S.B.W	DRAWING NUMBER G03158E-A09
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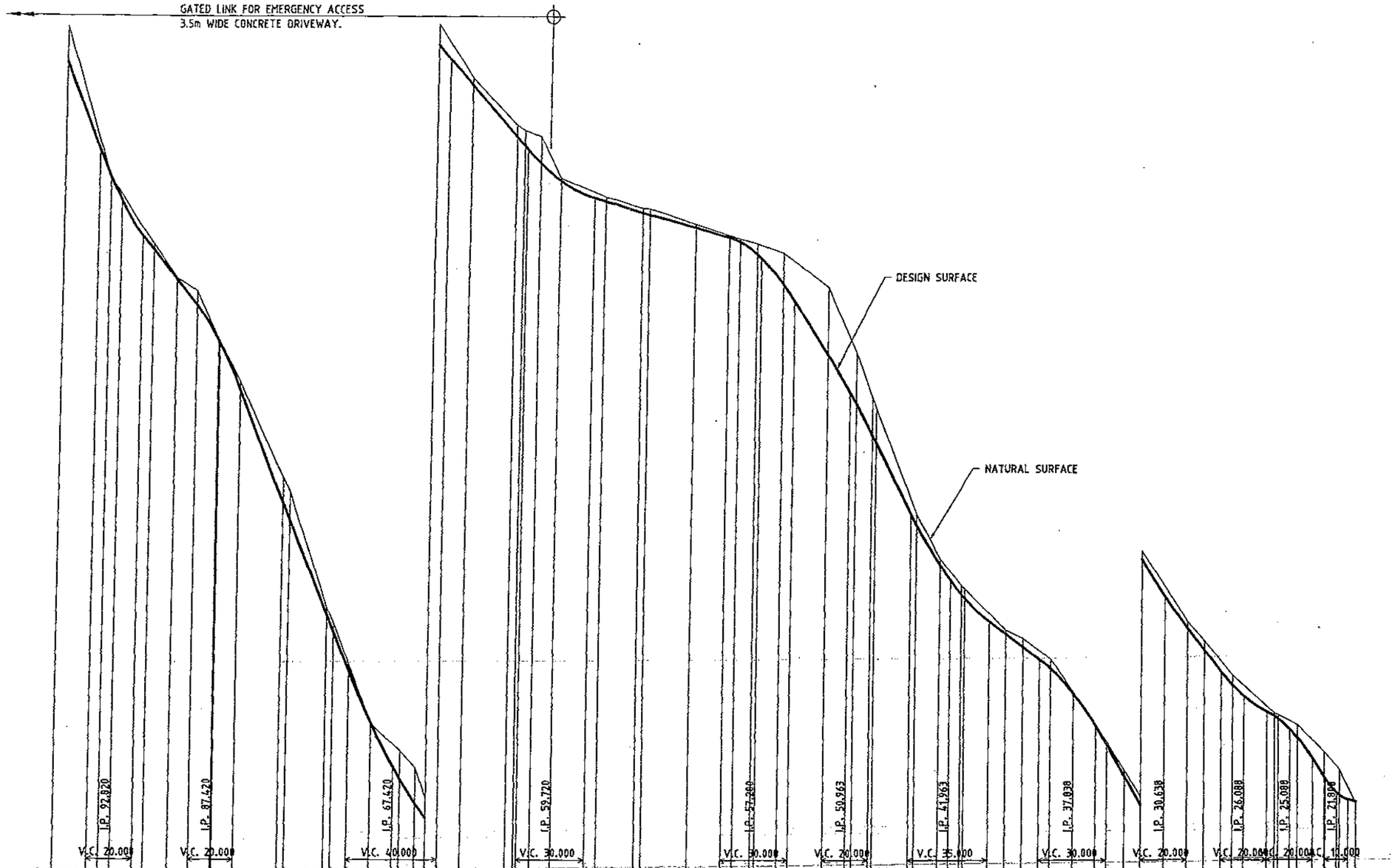
DATUM R.L. 55.000m

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DATUM R.L. 60.000m

| | | |



PEGGED CHAINAGE	NATURAL SURFACE	DESIGN SURFACE	CUT/FILL DEPTH
1740.000	100.589	99.070	-1.519
1755.000	95.320	95.320	+0.048
1760.000	94.204	94.251	-0.263
1765.000	93.145	93.145	
1775.000	91.263	91.020	-0.067
1780.000	91.263	91.020	-0.614
1790.751	89.797	89.730	-0.037
1800.000	89.234	88.620	-0.354
1810.000	87.019	87.095	-1.127
1816.606	86.982	86.982	-1.227
1820.000	85.274	84.320	-0.320
1840.000	81.047	79.920	-0.416
1843.933	80.389	79.162	-0.047
1860.000	75.240	74.920	-0.308
1863.175	74.542	74.126	-0.485
1870.000	72.420	72.420	-0.663
1880.000	70.047	70.095	-1.142
1890.000	68.478	68.120	-0.113
1893.013	68.832	67.594	-0.191
1900.000	68.073	66.495	-0.205
1904.654	66.730	65.858	-0.265
1910.000		65.220	-0.142
1920.000	64.478	64.120	-0.126
1940.000	62.405	61.920	-0.454
1943.819	62.184	61.522	-0.113
1945.000		61.370	-0.191
1950.903	61.910	60.768	-1.357
1960.000	60.741	60.028	-2.940
1975.000	59.351	59.300	-2.268
1980.000		59.160	-1.608
1996.883	58.892	58.687	-1.523
2000.000	58.865	58.600	
2020.000	58.182	58.040	-0.142
2035.000	57.553	57.620	-0.597
2040.000	57.353	57.427	-0.262
2047.951	57.353	56.900	-0.405
2050.000		56.720	-0.414
2060.000	56.945	55.588	-0.477
2065.000		54.861	-0.381
2080.000	55.463	52.522	-0.427
2090.000	52.619	50.853	-0.073
2094.777		50.350	-0.283
2100.000	50.651	49.963	-0.367
2101.678	50.150	49.628	
2117.500	45.463	45.463	-0.597
2120.000	44.976	44.976	-0.262
2130.320	43.444	43.182	-0.405
2135.000		42.570	-0.414
2140.000	42.273	41.867	-0.477
2141.526	42.183	41.689	-0.381
2152.500		40.651	-0.427
2160.000	40.265	40.088	-0.073
2167.599	39.899	39.518	-0.283
2175.000		38.963	-0.367
2180.000	38.971	38.545	
2190.000		37.445	-0.073
2200.000	36.668	35.995	-0.283
2205.000		35.138	-0.367
2212.938	33.923	33.709	
2220.000	32.895	32.438	-0.293
2230.000		30.783	-0.416
2240.000	29.631	29.358	-0.444
2247.538	28.766	28.351	
2255.000		27.388	-0.444
2260.000	27.232	26.788	-0.416
2265.000		26.288	
2275.000		25.588	-0.123
2278.454	25.506	25.383	-0.172
2280.000	25.442	25.270	-0.530
2285.000		24.813	-1.088
2288.454	25.007	24.418	
2295.000		23.488	-1.153
2300.000	23.776	22.688	-1.074
2305.500		21.971	
2306.795	23.031	21.859	
2310.500		21.658	
2313.811	21.685	21.559	

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VERT 1 0 1 2 3 4 5 1:100

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CLIENT: DEVINE LIMITED

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

Weathered Howe *Engineers*

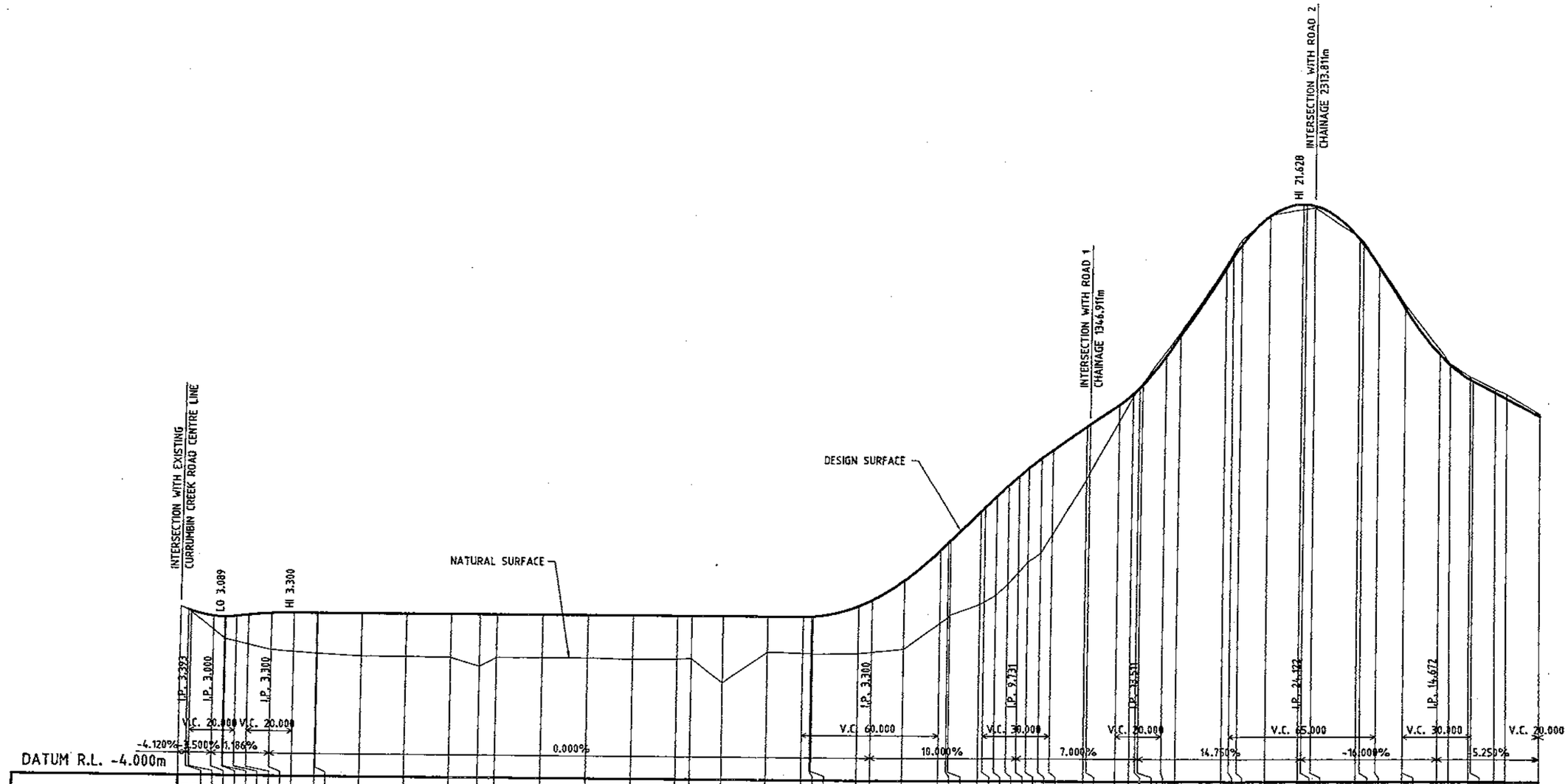
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TITLE: INDICATIVE LONGITUDINAL ROAD GRADING
ROAD 2 - SHEET 4 OF 4

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CUT/FILL DEPTH	+0.000	+0.000			+0.990		+1.638	+1.807	+1.810	+1.912	+1.922	+1.925	+2.338	+1.936	+1.925	+1.923	+1.921	+1.936	+1.917	+2.984	+1.597		+1.649	+1.693	+2.124	+3.068	+3.367	+3.332	+4.155	+4.422	+4.419	+4.190	+4.251	+2.379	+2.185	+0.139	+0.018	+0.164	+0.141	+0.231	+0.051			+0.074	+0.077	+0.108	+0.166	+0.167	+0.050	+0.121	+0.147	+0.203	+0.102
DESIGN SURFACE	3.536	3.393	3.350	3.117	3.089	3.099	3.181	3.270	3.300	3.300	3.300	3.300	3.300	3.300	3.300	3.300	3.300	3.300	3.300	3.300	3.300		3.300	3.311	3.315	3.792	4.050	4.926	6.300	6.645	6.731	8.037	8.231	8.718	9.210	9.618	9.993	10.418	10.787	11.831	11.933	12.811	13.301	13.568	13.705	14.986	15.871	15.975	14.589	14.071	13.958	13.885	13.360	13.097	12.310
NATURAL SURFACE	3.536	3.393	3.400	3.117	3.089	2.099	3.119	1.632	1.638	1.493	1.490	1.388	1.378	1.355	0.962	1.364	1.383	1.364	1.383	0.316	1.703		1.662	1.622	2.168	1.669	3.792	1.868	3.278	3.399	3.882	4.286	4.792	5.801	6.168	6.787			9.452	9.748	13.170	13.586				16.035			18.962	20.078	21.173			21.685	21.559	20.181	20.008	17.258	17.239	14.639	14.071	13.507	13.300	12.411
PEGGED CHAINAGE	0.000	3.471	4.700	16.700	19.639	20.000	24.700	30.000	40.000	50.000	60.000	80.000	100.000	120.000	132.483	140.000	160.000	180.000	200.000	220.000	226.184	240.000	260.000	275.691	279.297	280.000	300.000	305.691	320.000	335.697	339.142	340.000	353.064	355.000	360.000	365.327	370.000	374.497	380.000	385.000	400.000	401.453	414.000	420.000	422.714	424.000	434.049	440.000	460.000	462.438	467.215	480.000	494.617	495.938	500.000	520.000	524.644	528.438	539.864	540.000	555.000	560.000	568.800	570.000	580.000	584.995	600.000

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ORIGINAL SHEET SIZE: A1

CLIENT: DEVINE LIMITED

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

Weathered Howe Engineers

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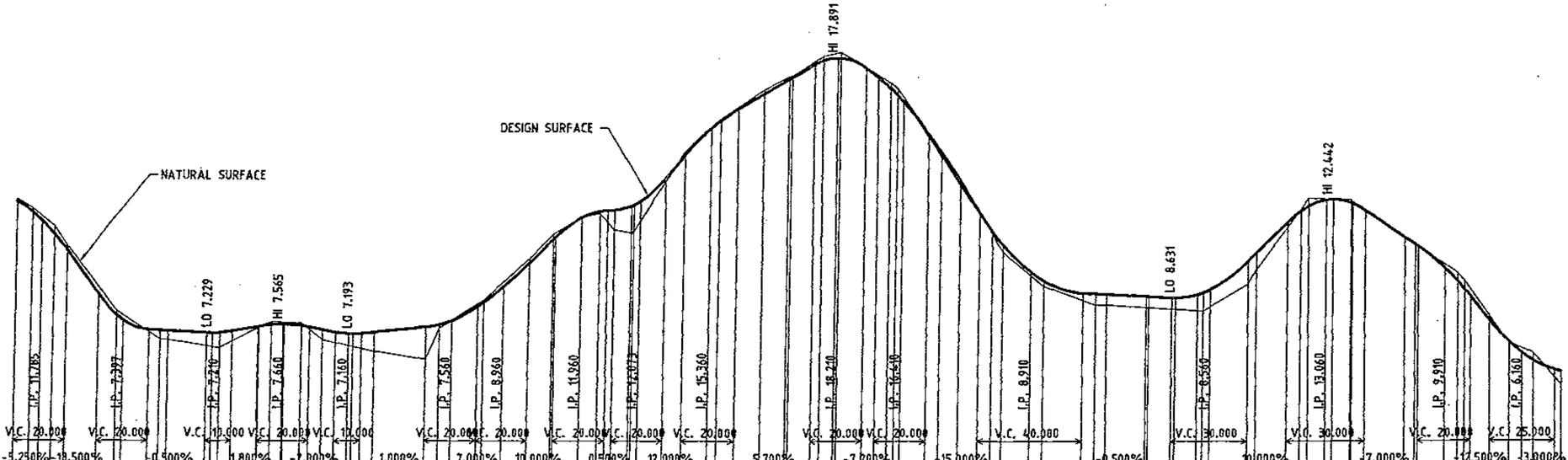
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TITLE: INDICATIVE LONGITUDINAL ROAD GRADING
ROAD 3 - SHEET 1 OF 3

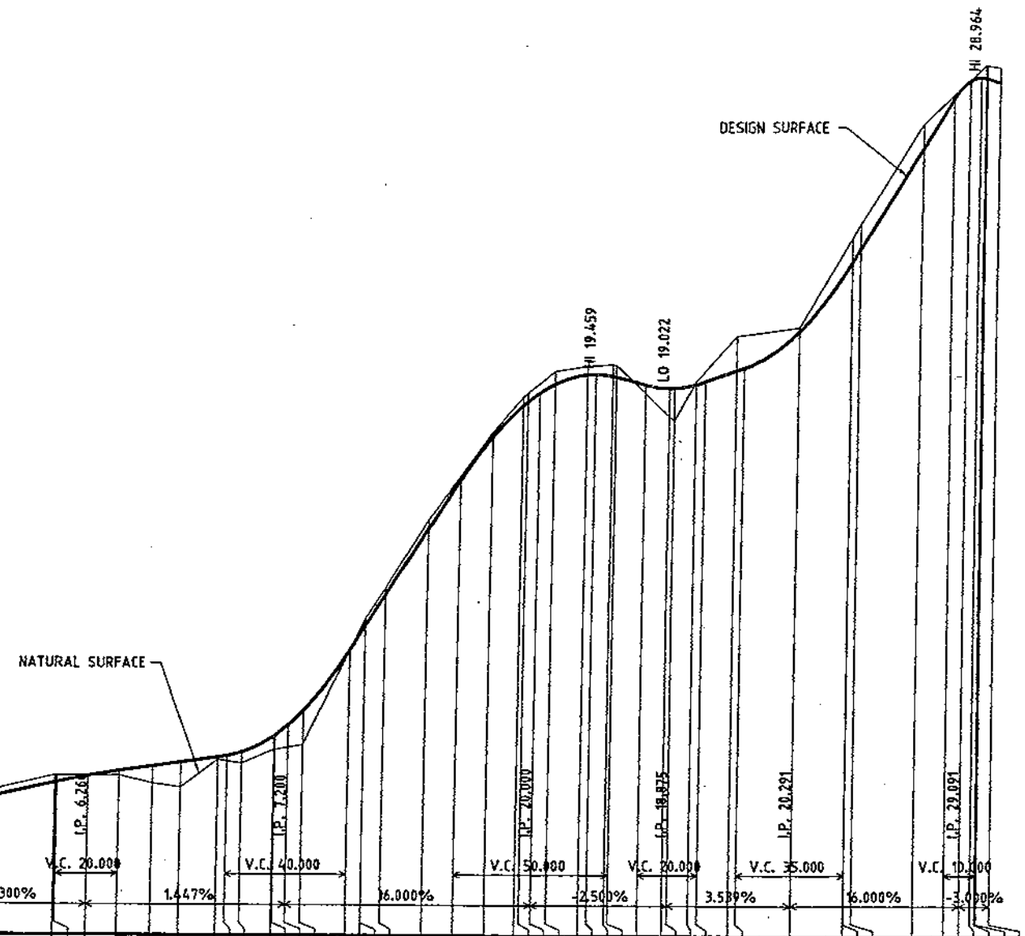
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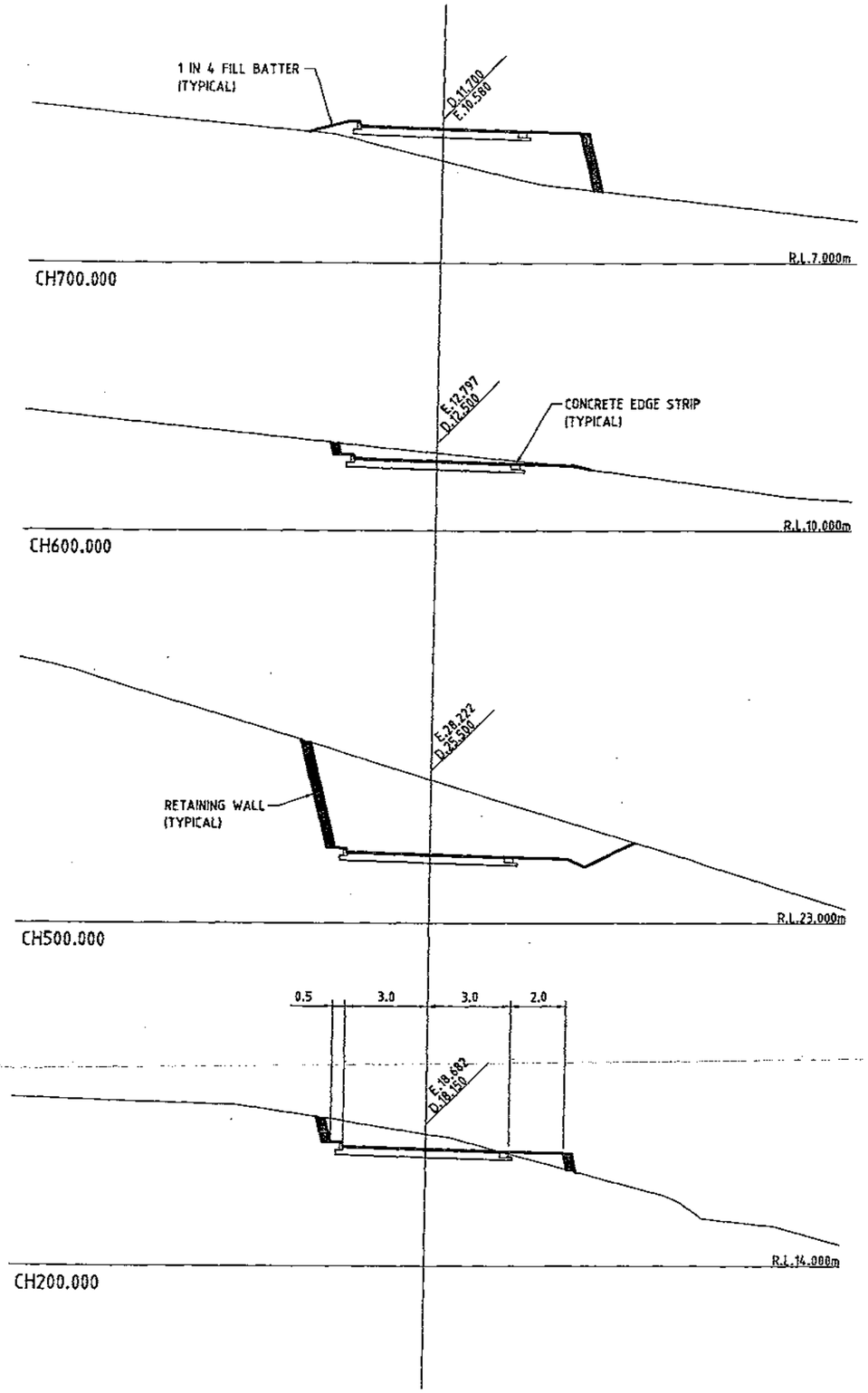


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PROJECT: GOLD COAST GOLF RESORT
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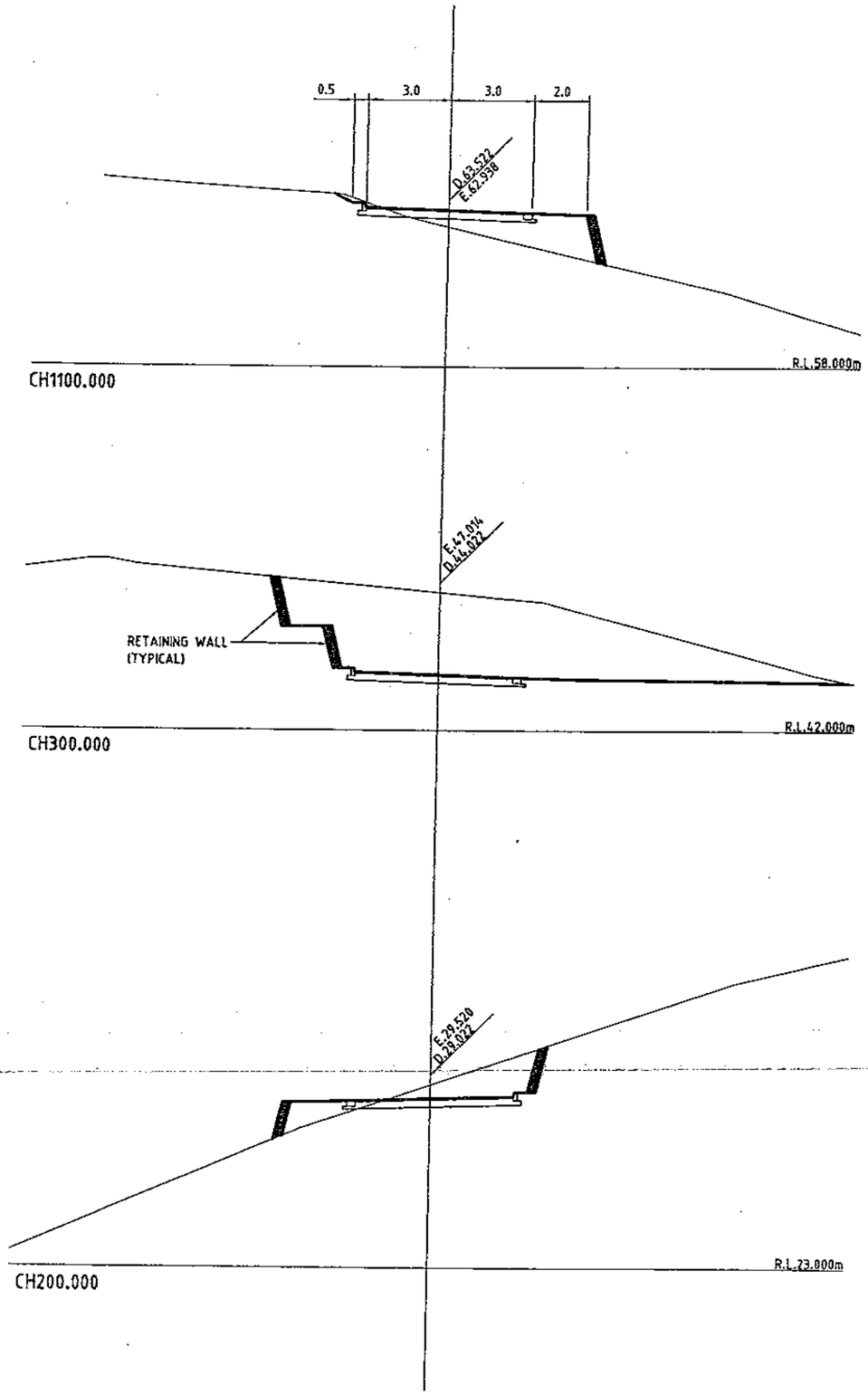
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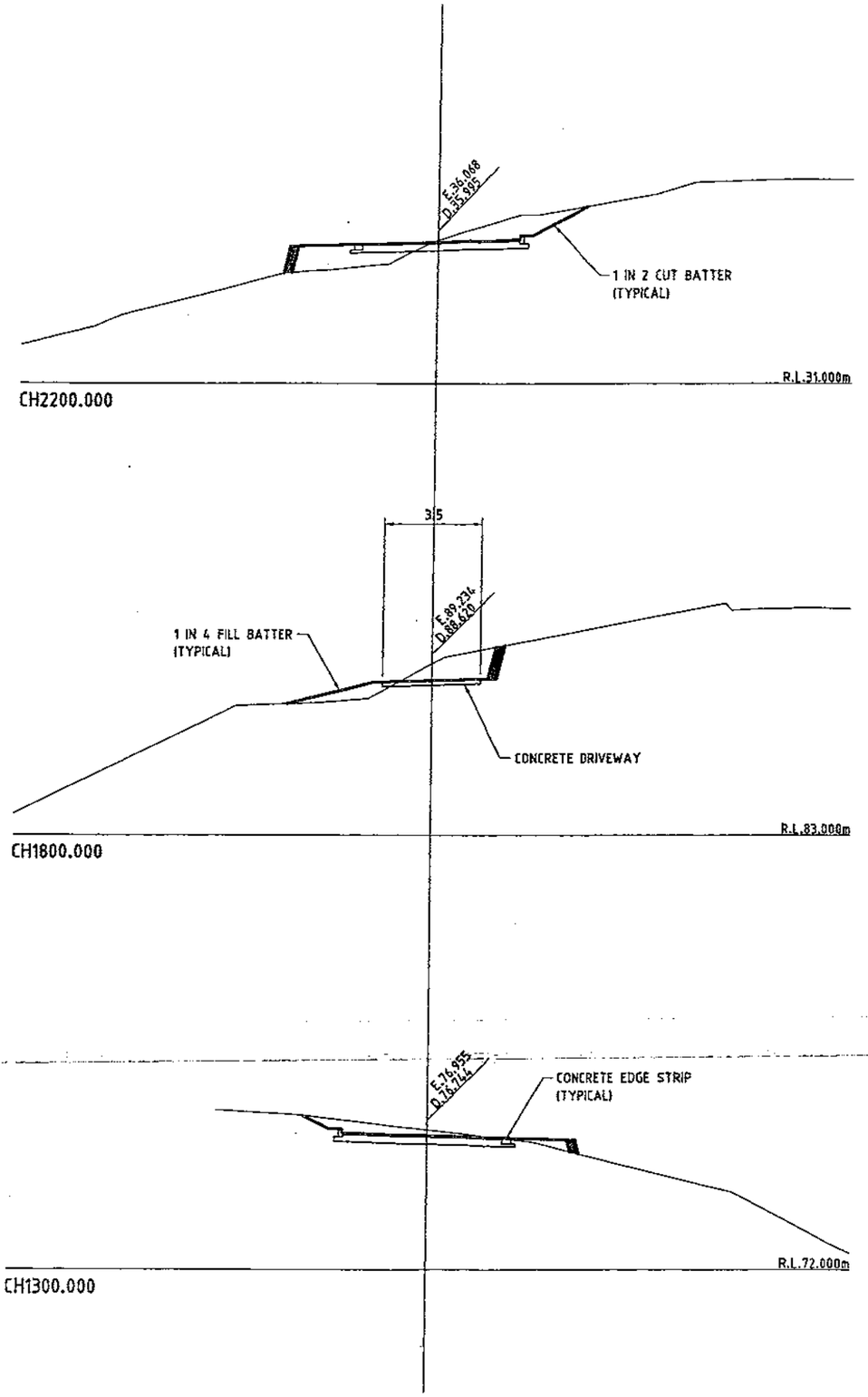
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TITLE: INDICATIVE ROAD CROSS SECTIONS
ROAD 1 - SHEET 1 OF 1

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ORIGINAL SHEET SIZE: A1

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

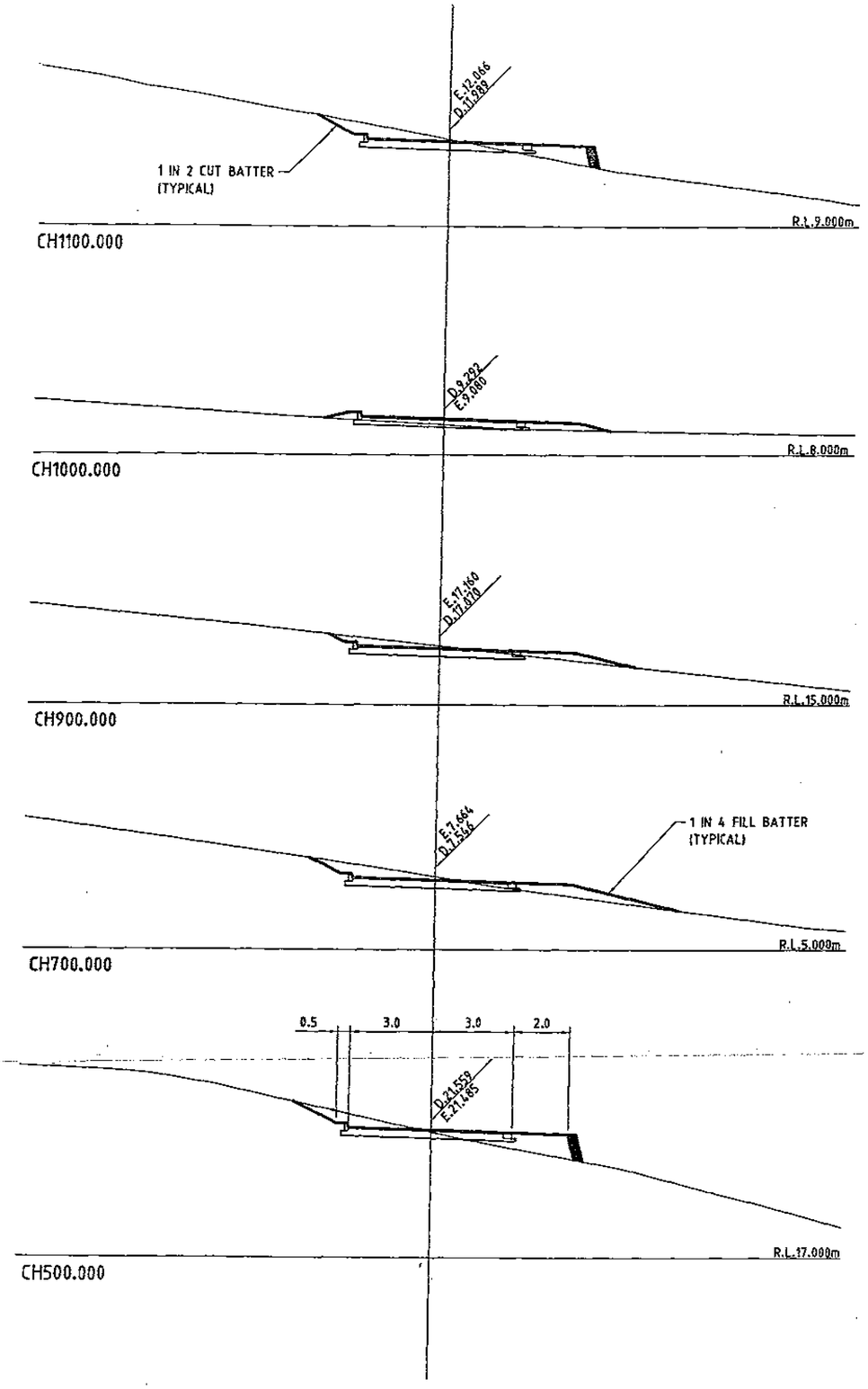
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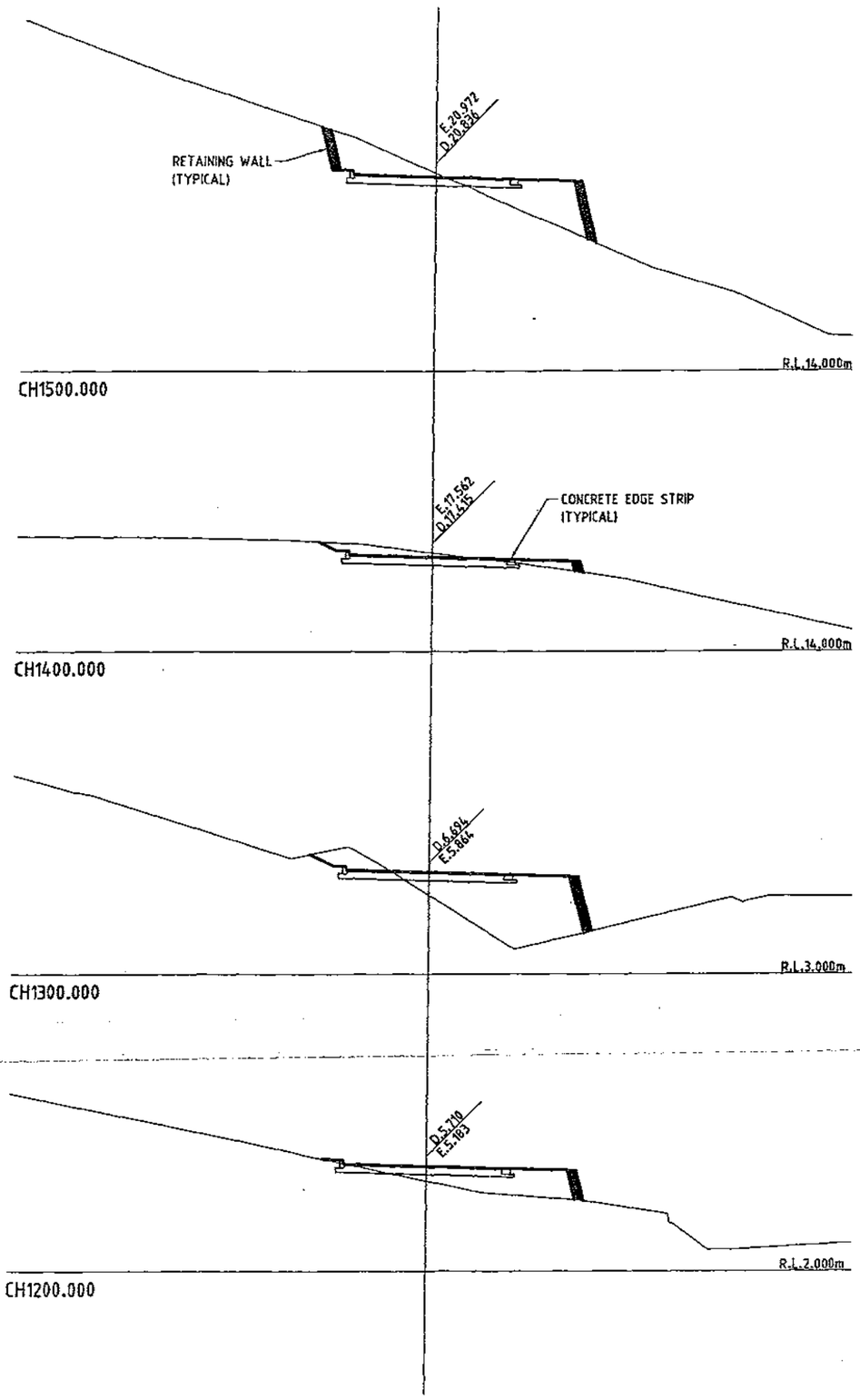
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TITLE: INDICATIVE ROAD CROSS SECTIONS
ROAD 2 - SHEET 1 OF 1

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CLIENT: DEVINE LIMITED

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ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

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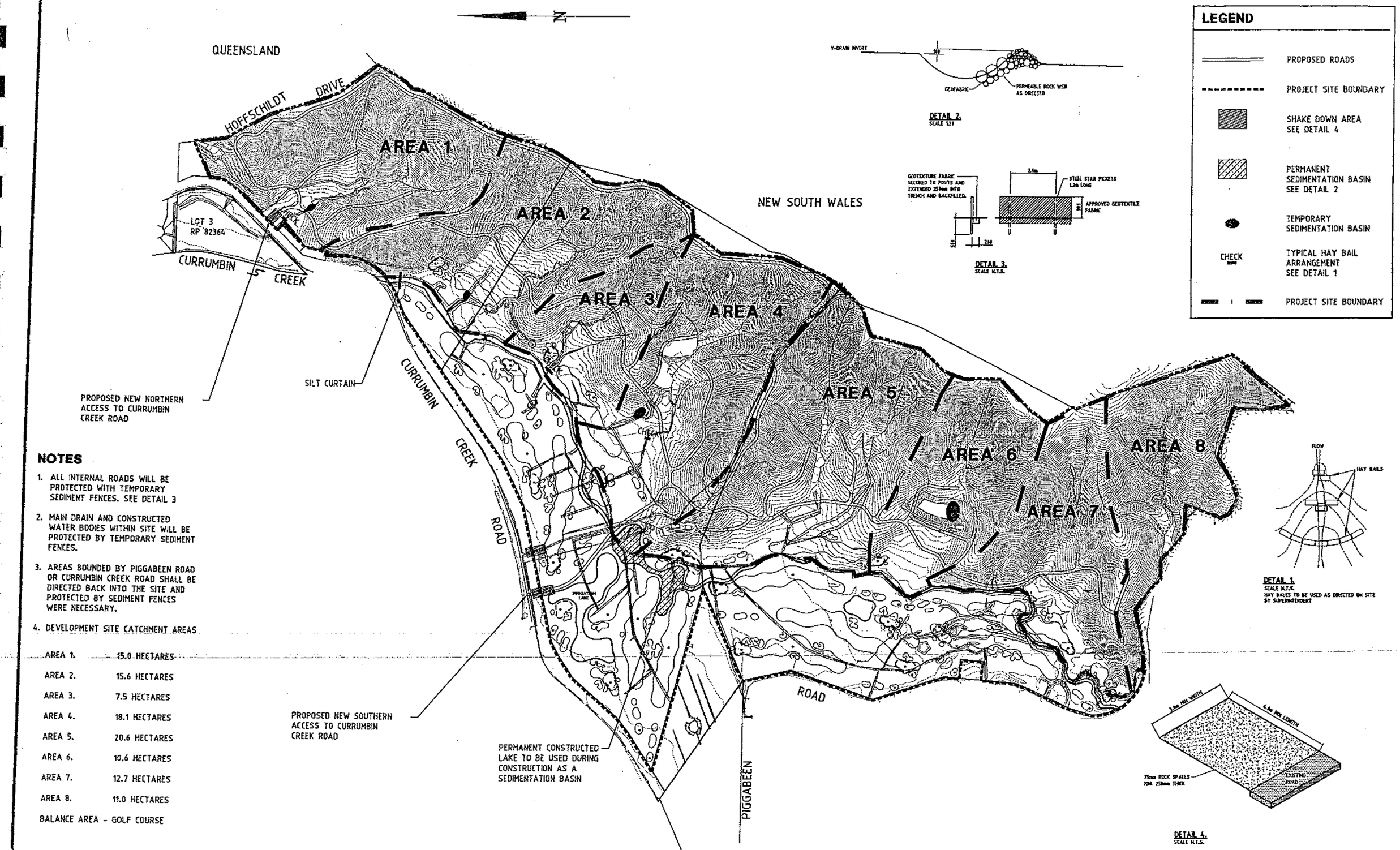
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TITLE: INDICATIVE ROAD CROSS SECTIONS
ROAD 3 - SHEET 1 OF 1

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DESIGNED	S.B.W	DRAWING NUMBER	REVISION
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NOTES

1. ALL INTERNAL ROADS WILL BE PROTECTED WITH TEMPORARY SEDIMENT FENCES. SEE DETAIL 3
2. MAIN DRAIN AND CONSTRUCTED WATER BODIES WITHIN SITE WILL BE PROTECTED BY TEMPORARY SEDIMENT FENCES.
3. AREAS BOUNDED BY PIGGABEEN ROAD OR CURRUMBIN CREEK ROAD SHALL BE DIRECTED BACK INTO THE SITE AND PROTECTED BY SEDIMENT FENCES WERE NECESSARY.
4. DEVELOPMENT SITE CATCHMENT AREAS

AREA 1.	15.0 HECTARES
AREA 2.	15.6 HECTARES
AREA 3.	7.5 HECTARES
AREA 4.	18.1 HECTARES
AREA 5.	20.6 HECTARES
AREA 6.	10.6 HECTARES
AREA 7.	12.7 HECTARES
AREA 8.	11.0 HECTARES

BALANCE AREA - GOLF COURSE

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CLIENT: DEVINE LIMITED

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ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

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TITLE: INDICATIVE SEDIMENT AND EROSION CONTROL PLAN

REVIEWED:

APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY. LTD.) R.P.E.Q. No.

DESIGNED		DRAWING NUMBER	REVISION
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CURRUMBIN CREEK ROAD

ROAD 3

IRRIGATION LAKE

ROAD 1

REV	DESCRIPTION	BY	DATE
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ORIGINAL SHEET SIZE: A0

NOTES:

CLIENT: DEVINE LIMITED

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

Weathered Howe *Engineers*

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TITLE: INDICATIVE ROADWAYS AND CHAINAGES

AMENDED: APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY. LTD.)

DESIGNED	S.B.W	DRAWING NUMBER	REVISION
DRAWN	J.P.B.	G03158E-A20	A
DATE	28TH APRIL		

TECHNICAL REPORT 2

INFRASTRUCTURE SERVICES REPORT

Prepared By ~ Weathered Howe

TECHNICAL REPORT 3

GEOTECHNICAL REPORT

Prepared By ~ Coffey Geosciences

TECHNICAL REPORT 4

ROAD IMPACT ASSESSMENT REPORT

Prepared By ~ Connell Wagner

Connell Wagner Pty Ltd
ABN 54 005 139 873
433 Boundary Street
Spring Hill
Queensland 4004 Australia

Telephone: +61 7 3246 1000
Facsimile: +61 7 3246 1001
Email: cwbne@conwag.com
www.conwag.com

Road Impact Assessment Report Gold Coast Golf Resort Currumbin Devine Limited

30 March 2004
Reference 568603tl/
Revision 3

Connell Wagner

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Appendix A
Existing Traffic Count Data

Appendix B
Traffic Generation Calculations

Appendix C
Copies of SIDRA Output

1. Introduction

1.1 Introduction

This report addresses Devine Limited's development proposal as depicted on the ML Design Concept Plan for the Gold Coast Golf Resort Currumbin.

In 1992 Consulting Engineers Rankine and Hill (now part of Connell Wagner Pty Ltd) prepared a report for Co-YouAustralia Pty Ltd (the current site owners) with respect to the rezoning application and Hulbert Group Concept Plan that was approved on the subject site.

The assumptions used for this report are the residential yields and other development parameters as outlined in Section 2 of this report.

This report addresses the total development upon completion. It is recognised that the development will occur in stages, however staging has not been finalised yet. Analysis of road link and intersection performance has been undertaken at the expected completion date of the development (2009) as well as the 10 year horizon beyond this time (ie 2019).

The traffic impacts have been assessed by analysing the performance of the major intersections around the site and comparing this with the performance of these intersections within the additional traffic volumes contributed by the proposed development. AADT volumes along Currumbin Creek Road (and corresponding Levels of Service) have also been compared with and without the development traffic.

This report only deals with external traffic issues. An overview of internal traffic management is addressed by Weathered Howe in the Infrastructure Services Resort and will be addressed in further detail at each stage of the subdivision.

2. Development Profile

2.1 Development Details

The proposed development site is located on Currumbin Creek Road approximately 5km southwest of the Pacific Highway, Currumbin. It is situated on the eastern side of Currumbin Creek Road, extending beyond Galleon Way in the north and to Piggabeen Road in the south. A location plan is shown as Figure 2.1. The site is vacant and is surrounded by semi-rural development, with the land adjacent to Currumbin Creek Road being used for grazing. Residential areas lie to the north.

The proposed development includes a golf course and residential/hotel facilities and comprises the following:

- 34 house lots;
- 307 town house;
- 28 twin villas;
- 65 residences within "5-plex" buildings;
- 120 condominium units; and
- 96 room hotel.

The development site is proposed to have one major, and one minor access point. These are indicated on the locality plan. Primary access to the site, west of Galleon Way, will lead patrons and residents from a new intersection at Currumbin Creek Road through to the golf club and Hotel. Access to residential sites is also available on this route. The minor access at the eastern end of the site is provided for resident access to dwellings off Currumbin Creek Road. No residential access will be provided from Piggabeen Road.

The development will be opened in stages, however this study has only considered impacts at the completion of the full development. This is estimated to be in 2009 and background traffic volumes have been calculated on this basis.

2.2 Surrounding Road Network Details

2.2.1 General Road Geometry

Currumbin Creek Road is a State Controlled Road ("SCR"), which runs from the Pacific Motorway at Currumbin and heads south west through the Currumbin Valley. The road generally serves a collector/distributor function. The road width varies, although the corridor typically comprises a single lane each way with additional turning lanes/widenings where required at intersection points along the road.

Two major intersections with Currumbin Creek Road currently exist in the vicinity of the proposed site:

i) Beyond the northern end of the development, there is a four-way signalised intersection between Currumbin Creek Road and Mainsail Street/Bienvenue Drive. This intersection is fully signalised with provision for pedestrian movements. Mainsail Street and Bienvenue Drive serve residential estates on the east and west of Currumbin Creek Road and the majority of the traffic from these areas enters the Currumbin Creek distributor Road at this intersection.

ii) A "T"-junction exists with Galleon Way, approximately mid-way along the length of the site. This intersection is unsignalised, however it accommodates significant traffic movements between Galleon Way and the northern leg of Currumbin Creek Road. The performance of the intersection is currently restricted by inadequate passing width for westbound Currumbin Creek Road traffic when passing a vehicle turning right into

Galleon Way. The close proximity of the Piggabeen Creek Bridge (approximately 20 m to the east of the intersection) does not allow sufficient distance for the construction of a passing lane without widening of the bridge.

The lane geometry at these intersections is indicated on Figure 2.2. Indicative layout and traffic arrangements at the existing Currumbin Creek Road/Galleon Way and Currumbin Creek Road/Mainsail Street intersections are shown on Figures 2.3 and 2.4 respectively.

2.2.2 Current Traffic Volumes

Traffic count data at these two intersections was obtained from Main Roads. The most recent intersection volume data available is an AM and PM Peak Survey (2-hour counts to identify the 1-hour peak) carried out by Australasian Traffic Surveys on the following dates:

- Currumbin Creek Road/Galleon Way 28 August 2002
- Currumbin Creek Road/Mainsail Street/Bienvenue Drive 28 May 1998

The original traffic count data as provided to Connell Wagner by Main Roads is contained within Appendix A.

Discussions with Main Roads indicated that a growth rate of 3.5% per annum, compound was appropriate at this location. This figure was used to convert the traffic count information to current traffic volumes, and on this basis the estimated 2004 traffic volumes at the major intersections along Currumbin Creek Road (adjacent to the site) were developed. These are summarised in Figure 2.5.

Average Annual Daily Traffic ("AADT") information data was only available for the Currumbin Creek Road/Galleon Way intersection. Escalating these figures indicates that the AADT for Currumbin Creek Road is currently about 4,500 vpd westbound/5,000 vpd eastbound to the east of Galleon Way and about 2,200 vpd (each way) west of Galleon Way

2.2.3 Future Traffic Volumes

It has been assumed that development of the project will occur over approximately a 4-5 year period, and therefore full development traffic will be imposed on the existing road network in about 2009.

This study investigates the impact of the development traffic on the road network at the time of development completion (ie 2009) and at a further 10-year horizon (ie 2019). Projected background traffic volumes have been calculated by escalating the current volumes at 3.5% per annum compound up to these periods. This data is summarised in Figures 2.6 (2009 – AM and PM peak) and Figures 2.7 (2019 – AM and PM peak).

Estimated Future AADT figures along Currumbin Creek Road are as follows:

Location	*AADT – 2009*	*AADT – 2019*
East of Galleon Way – westbound	5,400	7,600
East of Galleon Way – eastbound	5,900	8,400
West of Galleon Way	2,600	3,600

2.2.4 Commercial Vehicles

Given the residential nature of the area, the volume of commercial vehicles is expected to be low. This is confirmed by the traffic count data, which indicates that the percentage of commercial vehicles counted for all movements to be less than 5%. This has been adopted for this report.

2.3 Generation and Distribution of Development Traffic

The Queensland Department of Main Roads ("QDMR") Road Planning and Design Manual was referenced for establishing trip generation rates from the residential components development. Main Roads Queensland (Resort Traffic Surveys), 1989, was used for determining trip generation form the hotel.

The method and calculations adopted in determining site traffic generation is included within Appendix B. The predicted resort traffic generation is as follows:

Resort Component	*Traffic Generation*			
	AM Peak		*PM Peak*	
	Enter Dwelling	*Exit Dwelling*	*Enter Dwelling*	*Exit Dwelling*
Hotel	17	26	26	17
Residential and Units	74	223	199	98
Golf Course	40	10	10	40
Retail/Restaurant	-	-	12	8
Total	131	259	247	163

Internal road geometry and security features of the site encourage the use of the major access road, ie the western-most access. It is estimated that 40% of "residential and unit" traffic will enter via the minor (eastern) access while the balance of development (ie hotel/golf course/retail patrons and the balance of residential/unit users) will enter/exit the site at the major access point.

The expected destination/route of Resort generated traffic was assumed to be as follows.

Major access:

- 95% via Currumbin Creek Road (eastbound); and
- 5% via Currumbin Creek Road (westbound).

Minor access:

- 85% via Currumbin Creek Road (northbound); and
- 15% via Currumbin Creek Road (southbound).

Ten percent of the development traffic has been assumed to travel via Galleon Way.

All generated traffic is assumed to be travelling to a destination external to the site. This is a conservative approach since many trips may be internal to the development eg residential to golf. The proposed traffic volumes generated by the development are shown in Figure 2.8.

2.4 Predicted Traffic

The development traffic has been combined with projected background traffic volumes to determine total volumes along Currumbin Creek Road at existing intersections with Galleon Way and Mainsail Street/Bienvenue Drive and at the major/minor access roads for the new development. These have been calculated for year 2009 & 2019 and are shown on Figures 2.9 and 2.10.

2.5 Development Intersections

The proposed geometry for the major and minor development intersections with Currumbin Creek Road are shown on figures 2.11 and 2.12. The following should be noted:

- The traffic environment at the intersections is 60-80 km/hr unrestricted traffic flow and generally rural in nature;
- It is recommended that partially channelised "T"-intersections be provided with right-turn slots. The geometry/width for this arrangement is restricted at the main entry due to the close proximity of Currumbin Creek and past requirements for Council to retain trees fronting the site; and
- The development layout will ensure there is sufficient areas for accommodating parking, servicing access etc. to ensure there will be no restrictions imposed on the development intersections. Parking/stopping on the access road near the entrance will be prohibited.

2.6 Pavement Impacts

The QT *Guidelines for Assessment of Road Impact of Development Proposals* document states that the assessment of pavement impacts is required where the development traffic generates an increase in Equivalent Standard Axles ("ESA"s) equal to or greater than 5%. This issue is assessed below.

The development is expected to generate little commercial/heavy vehicle traffic because of the resort/residential nature of the facility. Some service vehicle requirements will be generated by the hotel and residences, however this is estimated to be less than 5% of the total development traffic.

The traffic count data for the existing intersections indicates that commercial vehicles currently make up about 4% of traffic along Currumbin Creek Road.

A majority of the development traffic is expected to use the northern approach of Currumbin Creek Road to enter/exit the site. AADT traffic volumes north of Galleon Way have therefore been used for this assessment. The ESA:CV ratio for the development commercial vehicles is likely to be similar to that for existing commercial vehicle traffic along Currumbin Creek Road and therefore a ratio of 1.0 will be adequate for comparative purposes.

The increase in ESAs due to the development at the time of opening (2009) is therefore expected to be as follows:

Existing Traffic:

AADT (total)	=	10,900 vpd (both directions)
Commercial vehicle (CV) %	=	4% (estimated)
ESA:CV ratio	=	1.0 (for comparative purposes)
Existing ESA	=	10,900 x 4% x 365 days x 1.0 ESA/CV
	=	160,454 ESA/year

Development Traffic:

Max. peak hour traffic	=	258 vph * - see notes below
AADT (total)	=	2,580 vph ** - see notes below
Commercial vehicle (CV)%	=	5% (estimated)
ESA:CV ratio	=	1.0 (for comparative purposes)
Projected development ESA	=	2,580 x 5% x 365 days x 1.0 ESA/CV
	=	47,085 ESA/year

Notes:
* Refer Fig. 2.8 - maximum peak hour flow between Minor Access and Mainsail Street during 2009 AM peak.
** Assume AADT = approx. 10 x maximum peak hour flow

Based on the above, the development potentially generates an increase in the number of ESAs of well above 5%. This issue will require further discussion with QT and other relevant authorities.

Note that this impact would also have applied to the scheme outlined in the Hulbert Group plan.

3. Traffic Operation Assessment

3.1 Study Parameters

The impact of the resort development traffic on the existing network has been assessed by examining the following:

- "Level of service" along Currumbin Creek Road as defined in GTEP Part 2 – Roadway Capacity;
- "Level of service" and "degree of saturation" at the two main intersections in the vicinity of the site; ie Currumbin Creek Road/Galleon Way and at Currumbin Creek Road/Mainsail Street/ Bienvenue Drive; and
- "Level of service and degree of saturation at the two development access road intersections with Currumbin Creek Road.

No discussions have been held with Main Roads and/or QT at this stage to obtain their input into the scope of study required.

3.2 Road Link Performance Criteria

The traffic count data supplied for the Currumbin Creek Road/Galleon Way intersection indicates that the ratio of design hour volume to annual average daily traffic (K Factor) is approximately 0.1. This has been used in the assessment of Road Link Performance below.

Table 3.9 in GTEP Part 2 gives indicative Levels of Service for roads and highways based on maximum AADT volumes under various conditions. Assuming level terrain and a K Factor of 0.1 (see above), the table advises that the following maximum AADTs apply for various Levels of Service on two-lane, two-way rural roads:

Level of Service	A	B	C	D	E
AADT (max.)	2,400	4,800	7,900	13,500	22,900

GTEP – Part 2 classifies the Level of Service categories as follows:

- ***Level of Service A*** is a condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream;
- ***Level of Service B*** is in the zone of stable flow and drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream;
- ***Level of Service C*** is also in the zone of stable flow but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream;
- ***Level of Service D*** is close to the limit of stable flow and is approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream;
- ***Level of Service E*** occurs when traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream; and
- ***Level of Service F*** is in the zone of forced flow. Flow breakdowns occur and queuing and delays result.

The Road Impact Assessment ("RIA") Guidelines state that:

- LOS E should be considered the limit of acceptable urban area operation;
- LOS C is generally considered a minimum standard on rural SCRs although in some instances, Main Roads may accept LOS D where weekend peaks are a defining event.

3.3 Road Link Analysis

Estimated AADT values have been calculated along Currumbin Creek Road for estimated 2009 and 2019 traffic conditions. These figures have been determined for cases with and without the development traffic to enable the impact on the network to be assessed.

The above analysis has been calculated for three segments along Currumbin Creek Road in the vicinity of the site; viz:

- Between the main (western) access and Galleon Way;
- Between Galleon Way and the minor (northern) access; and
- Between the minor access and Mainsail Street/Bienvenue Drive.

The results are summarised below:

Item	*Location along Currumbin Creek Road*		
	Main Access to Galleon Way	*Galleon Way to Minor Access*	*Minor Access to Mainsail/Bienvenue*
Year 2009 Without Development			
AM peak total	407	996	1,025
PM peak total	491	1,081	1,074
Maximum peak	491	1,081	1,074
AADT (10 x peak)	4910	10,810	10,740
Level of Service ("LOS")	C	D	D
Overall L.O.S	D		
Year 2009 With Development			
AM peak total	671	1,245	1,329
PM peak total	772	1,421	1,428
Maximum peak	772	1,421	1,428
AADT (10 x peak)	7,720	14,210	14,280
Level of Service ("LOS")	C	E	E
Overall L.O.S	E		
Year 2019 Without Development			
AM peak total	586	1,414	1,456
PM peak total	615	1,447	1,493
Maximum peak	615	1,447	1,493
AADT (10 x peak)	6,150	14,470	14,930
Level of Service ("LOS")	C	E	E
Overall L.O.S	E		
Year 2019 With Development			
AM peak total	840	1,653	1,736
PM peak total	939	1,755	1,844
Maximum peak	939	1,755	1,844
AADT (10 x peak)	9,390	17,550	18,440
Level of Service ("LOS")	D	E	E
Overall L.O.S	E		

The above analysis indicates that the development may initially result in reduced level of service along Currumbin Creek Road (ie from D to E) although a LOS of "E" is sometimes considered acceptable in an urban environment.

The impact on Currumbin Creek Road in the long term is less significant however. Year 2019 assessment predicts that the LOS will be "E" due to natural traffic development in the area and this classification is not affected by addition of traffic due to the Currumbin Creek Resort development.

3.4 Intersection Performance Criteria

Intersection performance has been evaluated against the following criteria:

- Degree of saturation ("DOS");
- Level of Service ("LOS"); and
- Queue length.

The above have been calculated using the computer application SIDRA. Copies of SIDRA results are attached within Appendix C.

The RIA Guidelines state that at signalised intersections, the intersection DOS, which represents the proportion of available green time capacity taken up for the critical movement(s), should be less than 0.9. This figure reduces for to 0.85 for roundabouts and to 0.80 for unsignalised priority junctions.

LOS classifications are similar to those outlined previously (refer 3.2 above). Generally a LOS of "D" is considered to represent the lower bound of acceptable intersection performance.

3.5 Intersection Analysis

SIDRA analyses have been carried out for the following intersections:

- Currumbin Creek Road/Galleon Way;
- Currumbin Creek Road/Mainsail Street/Bienvenue Drive;
- Currumbin Creek Road/Major Access; and
- Currumbin Creek Road/Minor Access.

The analyses have been carried out for AM and PM peak conditions at Year 2009 and 2019. Results are shown for the intersection performance with and without the addition of development traffic to enable the impact of the development on the intersection performance to be assessed.

The results are shown on Figures 3.1 to 3.8. The following general conclusions can be drawn:

- The new development will increase the DOS for the right turn movement from Currumbin Creek Road into Galleon Way (DOS increases from 0.402 to 0.561 in the AM peak). This intersection requires upgrading in any case because of the lack of passing width for west bound through traffic around these right turning vehicles.
- By 2019, the DOS of the right turn movement into Galleon Way will increase to 0.796. This will become 1.029 with development traffic included.
- By 2009, the Currumbin Creek Road/Mainsail Street/Bienvenue Drive intersection will become fully saturated (max DOS = 1.000). Addition of development traffic will marginally worsen the intersection performance. The intersection becomes more heavily saturated (both with and without additional development traffic) by 2019.

4. Safety Review

No formal safety audit of the existing intersection has been carried out this stage. This issue requires consultation with Main Roads to determine critical crash rates and establish any specific requirements before a full safety review of the development impact could be completed.

Nevertheless, the following observations can be made:

- The development access roads as currently shown are indicative only. These will be designed and detailed more fully to provide appropriate sight distances, channelisation etc as required to meet Main Roads safety standards during the detailed design phase;
- It is proposed to upgrade the existing intersection at Galleon Way to create a roundabout (see Section 5 below). As shown in the analysis at this location, the revised arrangement will be significantly less hazardous for westbound Currumbin Creek Road traffic than the current arrangement;
- The intersection at Currumbin Creek Road/Mainsail Street/Bienvenue Drive is fully signalised, with channelisation and including median refuges for pedestrians when crossing Currumbin Creek Road. This intersection is currently close to capacity and may require upgrading in the future whether or not additional development traffic is added. Any such upgrades will need to address relevant safety criteria; and
- Accesses will be required off Currumbin Creek Road for construction traffic during development construction. These access locations will need to be positioned and detailed at the time to suit construction requirements and satisfy Main Roads safety criteria.

Further development planning is still to be undertaken however it is believed that safety aspects of entry/exit points will be able to be satisfactorily addressed to meet Main Roads requirements.

5. Impact Mitigation

5.1 Currumbin Creek Road/Galleon Way

The Currumbin Creek Road/Galleon Way intersection is currently not safe because of inadequate roadway width for westbound traffic passing right-turning vehicles into Galleon Way. This problem becomes more hazardous as traffic volumes escalate to 2009 and 2019 levels.

As outlined previously, provision of a passing lane to overcome the above is not possible without widening the adjacent bridge over Piggabeen Creek. It is therefore proposed to construct a roundabout at this location, which will allow the effective passing arrangement to be configured between the existing intersection location and the bridge.

This arrangement is shown indicatively in Figure 5.1

SIDRA analysis of the revised intersection indicates modification of the intersection in this manner provides a significant improvement in the intersection performance. DOS and LOS for Year 2009 and Year 2019 traffic volumes (AM and PM Peak) are shown for the existing and modified intersection arrangements in Figures 5.2 and 5.3.

The following is noted:

- The maximum DOS for 2009 traffic volumes reduces from 0.701 to 0.470 with the introduction of the roundabout.
- Even with 2019 traffic volumes, the maximum DOS is only 0.728 (reduced from 1.029 with the existing "T"-junction arrangement).

5.2 Currumbin Creek Road/Mainsail Street/Bienvenue Drive

As outlined previously, this intersection will have reached saturation by 2009 without the addition of development traffic and upgrading of the intersection would be warranted regardless. Some of the heavily oversaturated DOS movements could be improved however by re-configuration of the intersection as described below.

The right-turn movement out of Bienvenue Street is currently a single lane. Given cycle time constraints, this does not provide sufficient capacity for the volume of traffic involved and the overall efficiency of the intersection could be improved by providing two lanes for this movement. This has the following implications:

- The carriageway width on the northern Currumbin Creek Road leg of the intersection would need to be widened to accept the additional lane of traffic. QT drawing no. 302018 (dated 1/9/99) indicates that 12.9 m of carriageway width is currently available and this would need to be increased by at least 1.5 m to create the additional lane. There is limited opportunity to widen the road on the western side, where only 3.5 m footpath width is currently available. There appears to be opportunity to widen the carriageway on the eastern side however (for both north and south approaches).

- The through movement out of Bienvenue Drive currently has a quite significant offset across the intersection. This would be worsened by re-placing this movement into the adjacent lane and therefore re-alignment of Bienvenue Drive may need to be undertaken.

SIDRA results indicate that by modifying the intersection in this way, the maximum DOS would reduce from 1.001 to 1.000 in 2009 and from 1.238 to 1.227 in 2019. Note however that the validity of the 2019 values are questionable because of the extent of oversaturation that will be occurring.

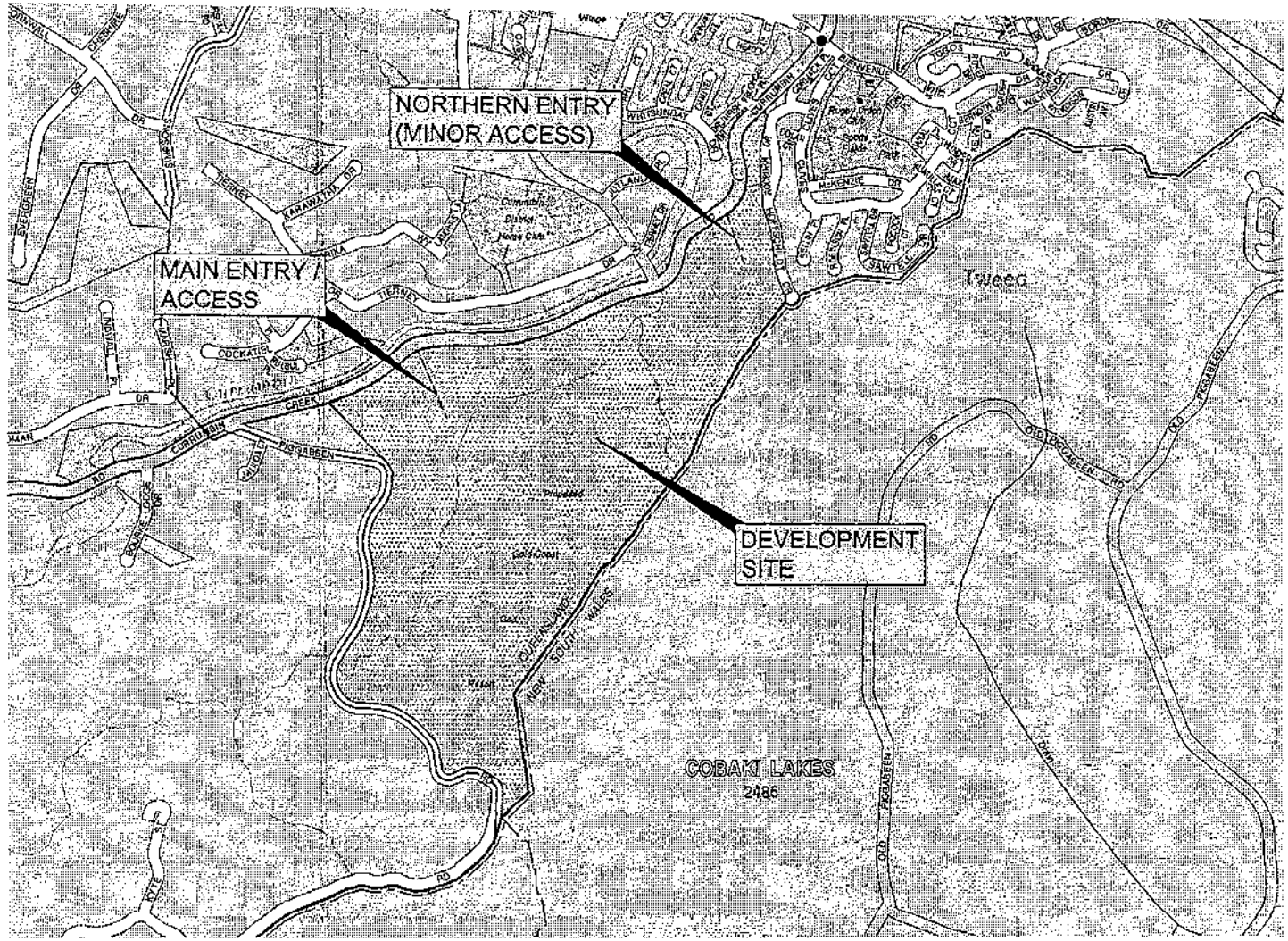
The suggested intersection alterations are shown indicatively on Figure 5.4. SIDRA analysis results for Year 2009 and 2019 (AM/PM peaks) are shown for the existing and modified arrangements (with development traffic included) in Figures 5.5 and 5.6.

6. Summary

The following conclusions can be drawn from this report:

- The increased traffic flow along Currumbin Creek Road due to the contribution from the development will result in a slight reduction in the Level of Service (L.O.S "D" to LO.S. "E") along this road. Note that Currumbin Creek Road is likely to be "close to the limit of stable flow" by 2009 even without any additional development traffic.
- By 2019, Currumbin Creek Road will be operating "at or close to capacity" (ie LOS E) based on current projected traffic escalation. This classification will not be affected by the addition of development traffic.
- The existing Currumbin Creek Road/Galleon Way intersection currently warrants upgrading due to the lack of passing width for west-bound through traffic past vehicles turning right into Galleon Way. This upgrading can be best achieved within current physical constraints by construction of a roundabout.
- A roundabout at Currumbin Creek Road/Galleon Way will enable this intersection to perform with a satisfactory degree of saturation, even with 2019 traffic volumes plus contribution from the development.
- The intersection of Currumbin Creek Road/Bienvenue Drive/Mainsail Street is heavily saturated during peak periods under current traffic flows. SIDRA analysis indicates that by 2009 this intersection will be over saturated and require upgrading, even without additional traffic impact from the proposed development.

Figures

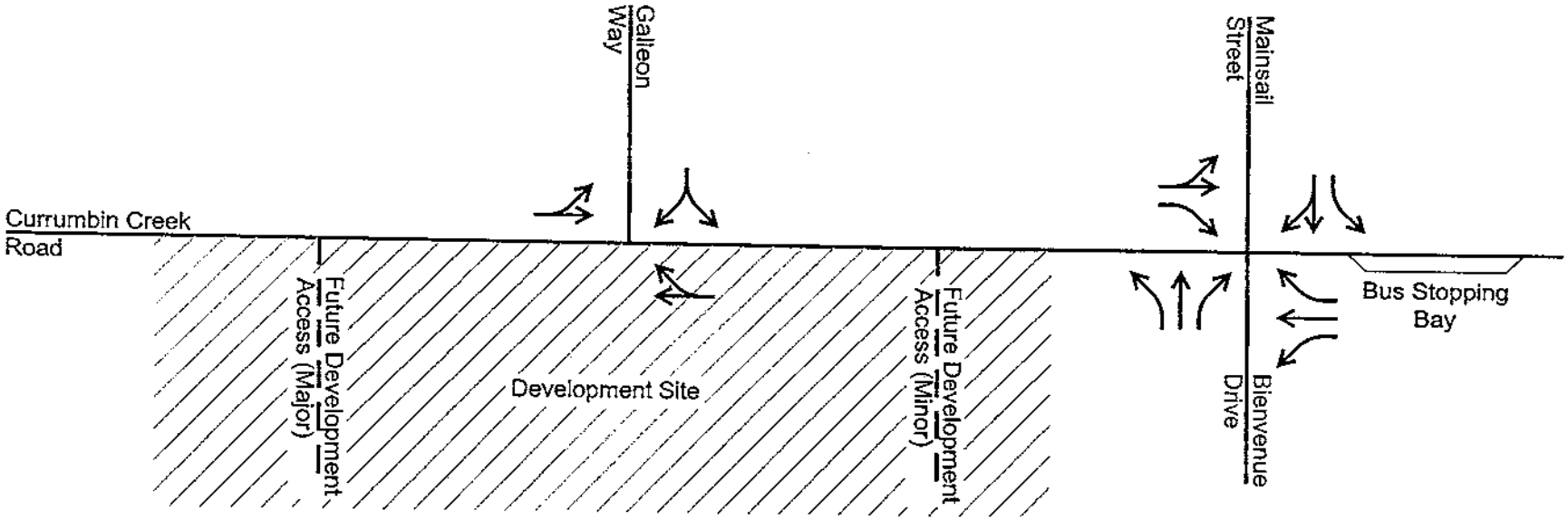


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LOCALITY PLAN

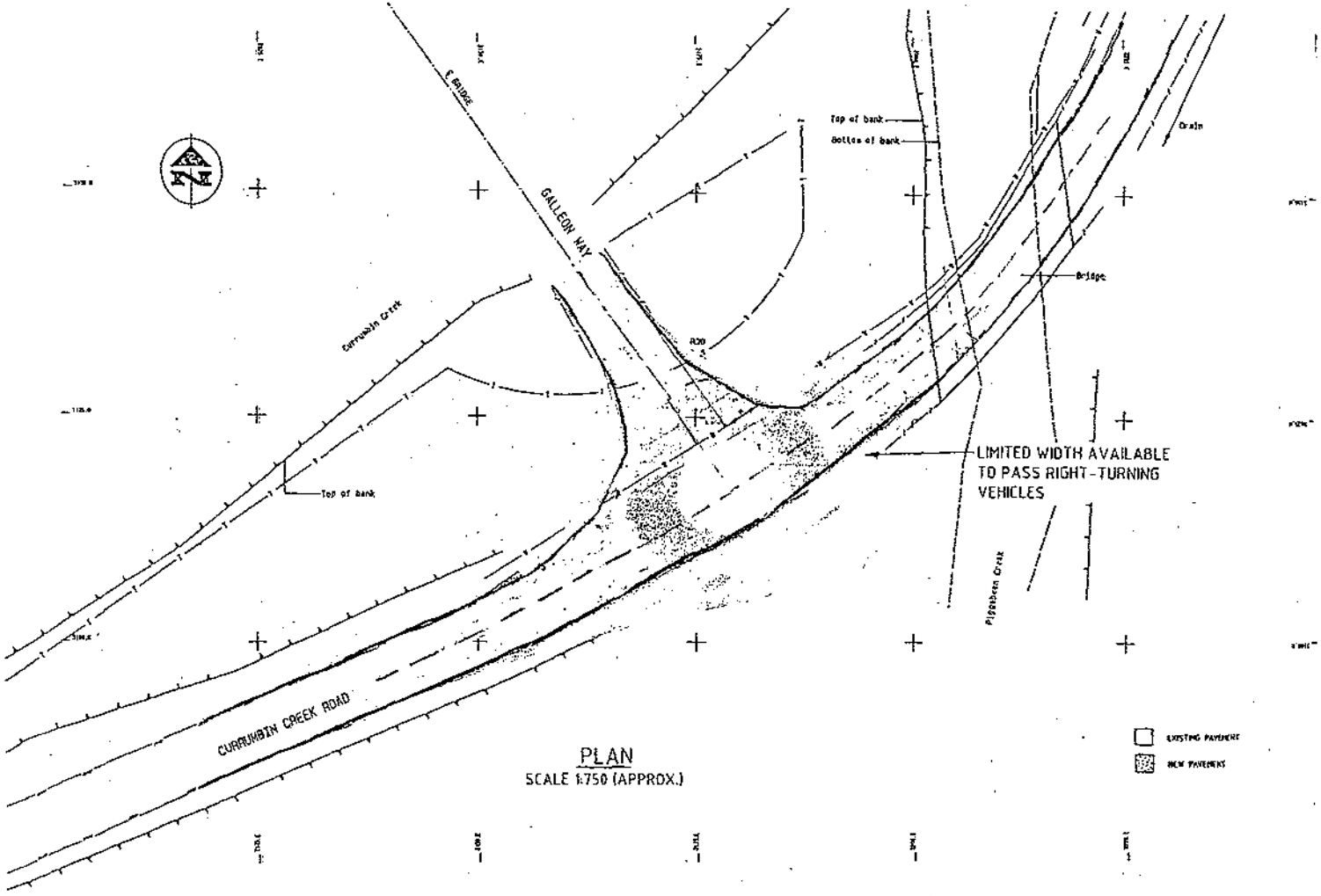
FIGURE No. 2.1



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EXISTING ROAD /
INTERSECTION GEOMETRY

FIGURE No. 2.2

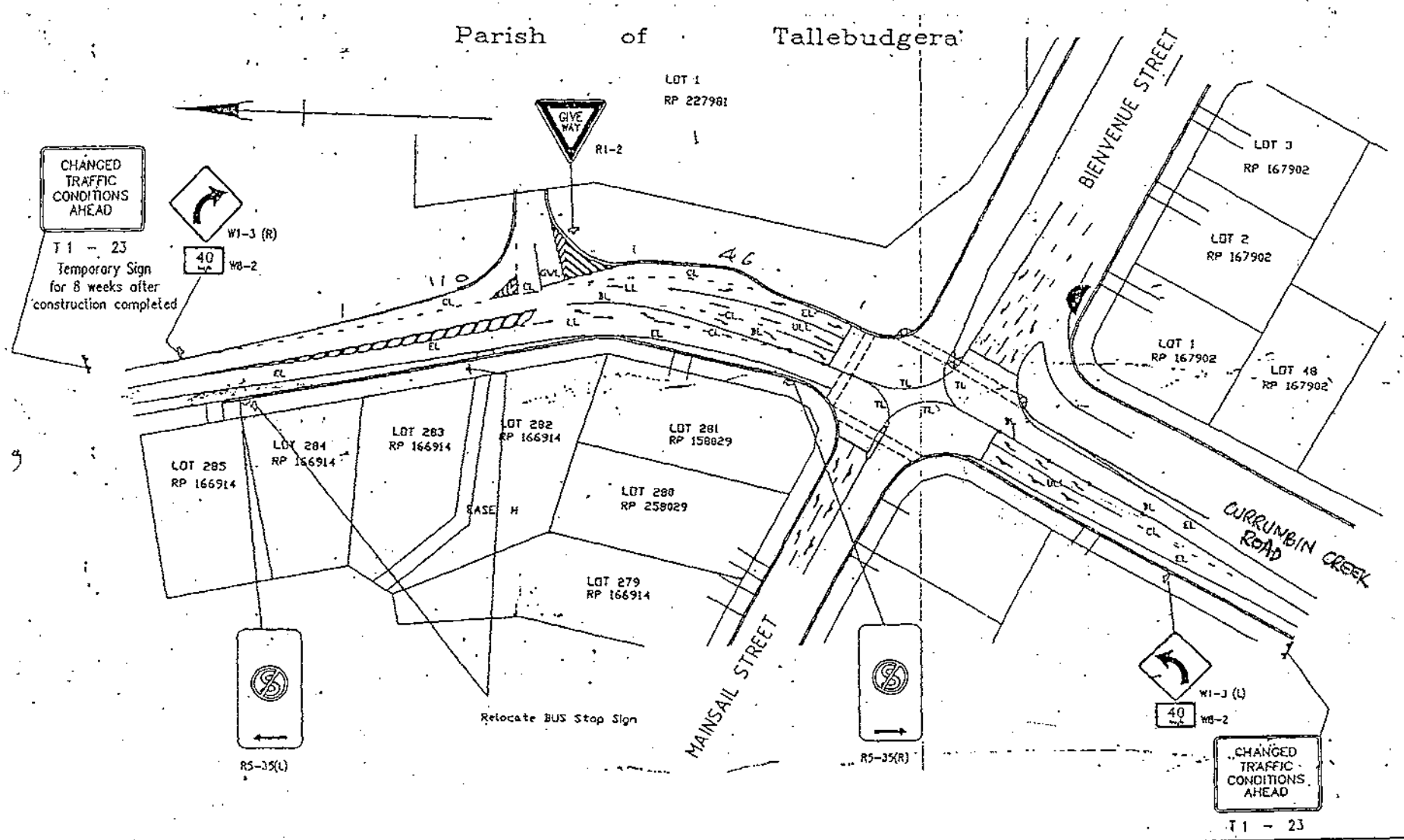


PLAN
SCALE 1:750 (APPROX.)

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EXISTING INTERSECTION GEOMETRY
AT CURRUMBIN CREEK ROAD / GALLEON WAY

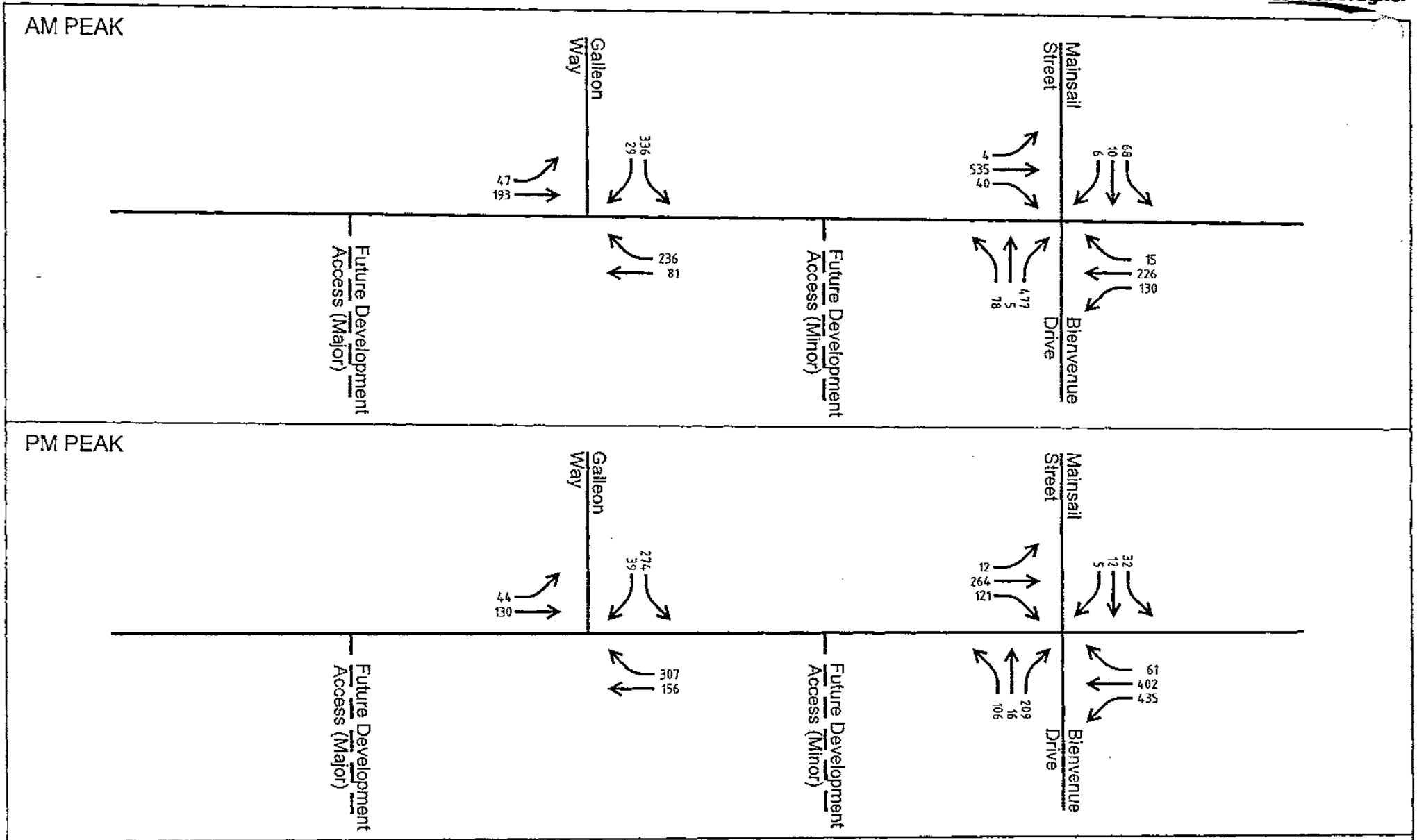
FIGURE No. 2.3



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EXISTING INTERSECTION ARRANGEMENT
CURRUMBIN CREEK ROAD / MAINSAIL STREET/ BIENVENUE DRIVE

FIGURE No. 2.4

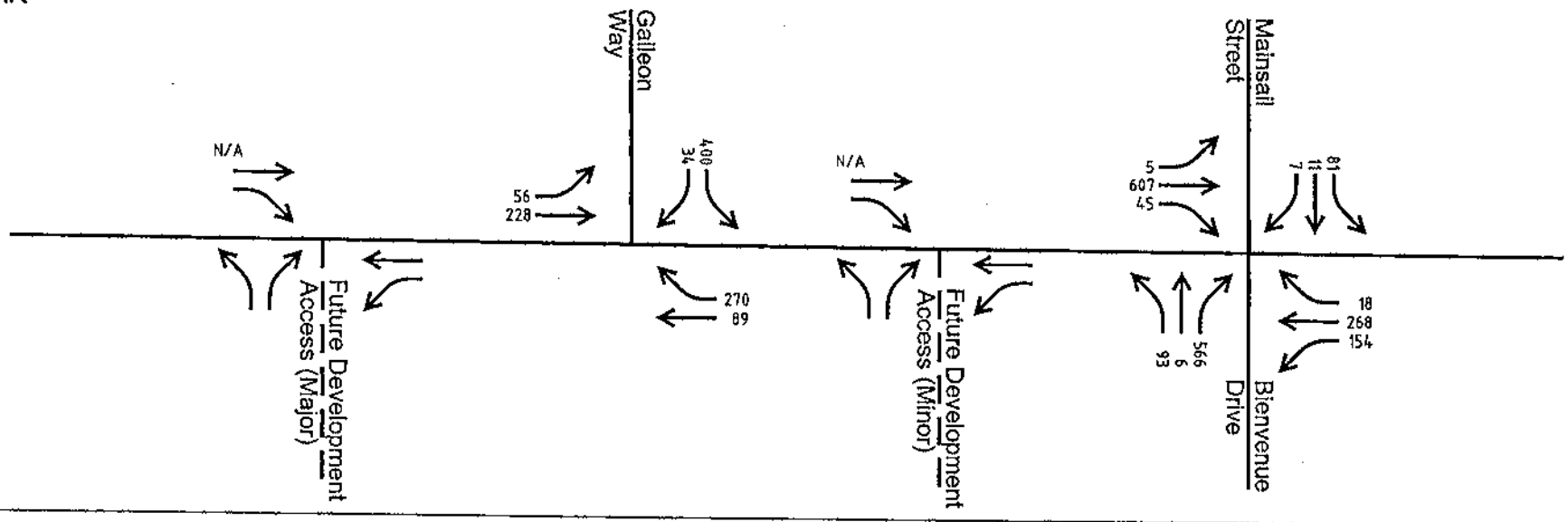


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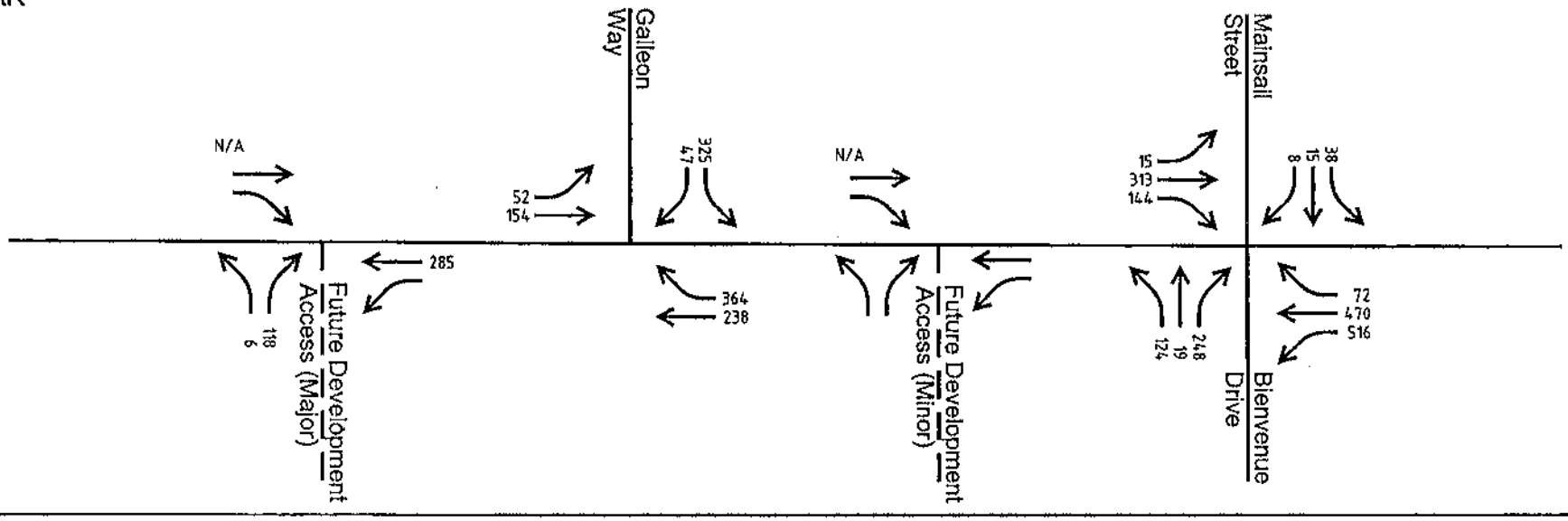
ESTIMATED 2004 TRAFFIC VOLUMES
(WITHOUT DEVELOPMENT)

FIGURE No. 2.5

AM PEAK



PM PEAK



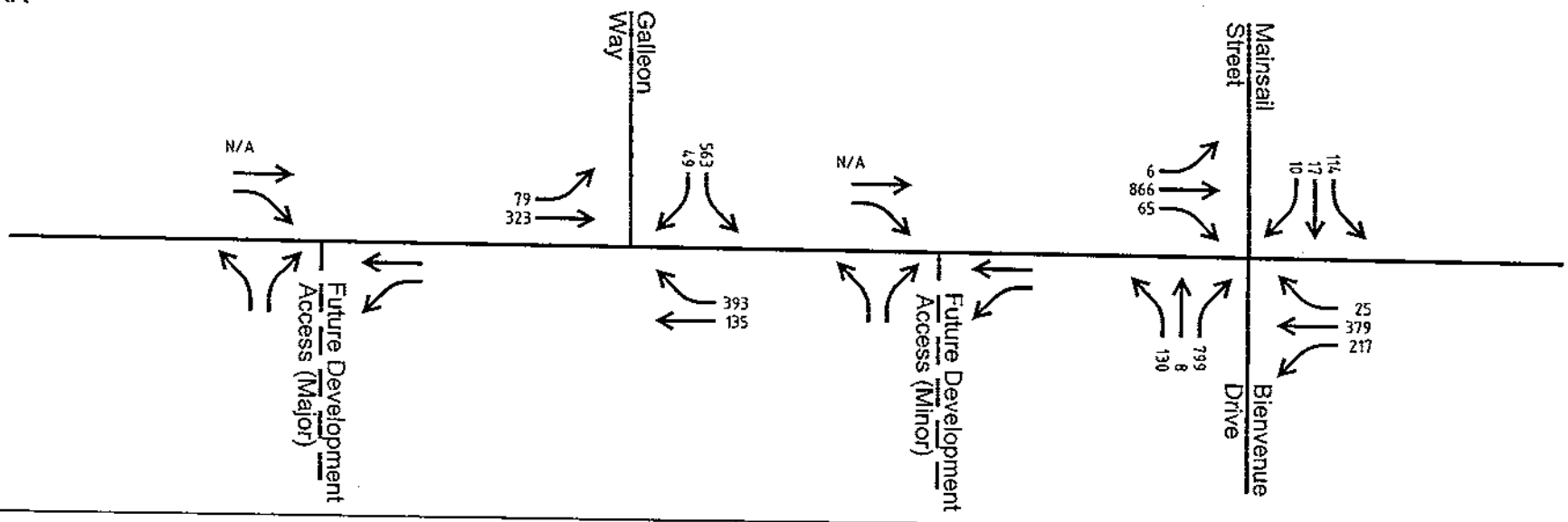
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ESTIMATED 2009 TRAFFIC VOLUMES
(WITHOUT DEVELOPMENT)

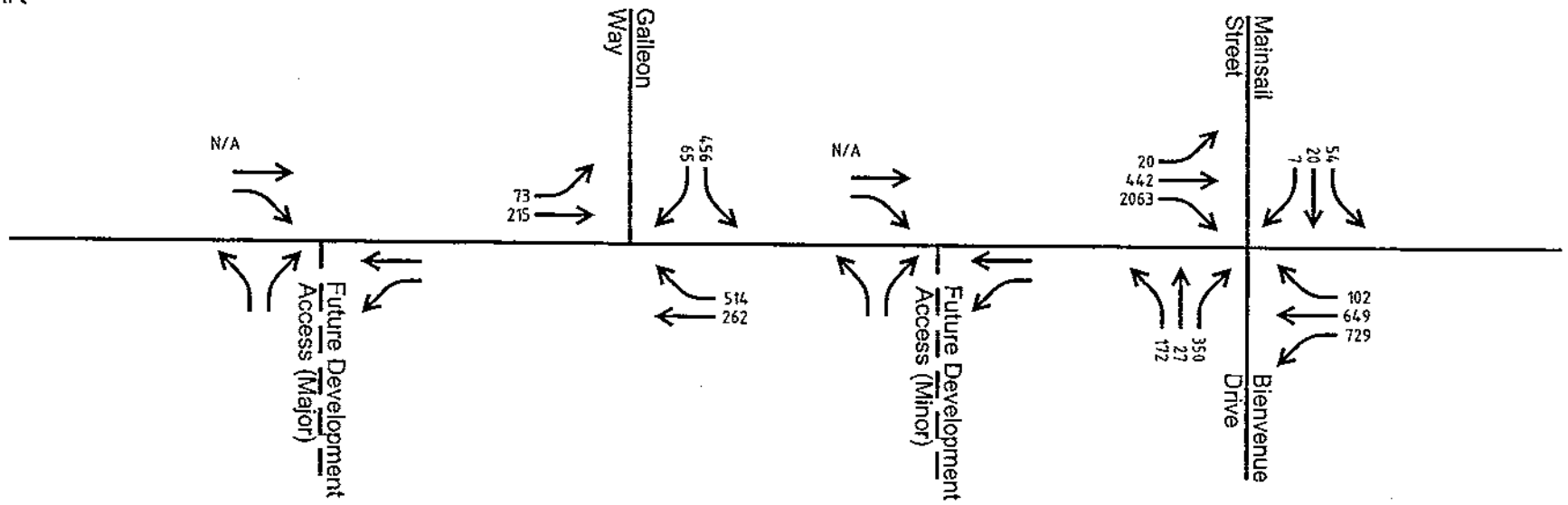
FIGURE No. 2.6

Connell Wagner

AM PEAK



PM PEAK



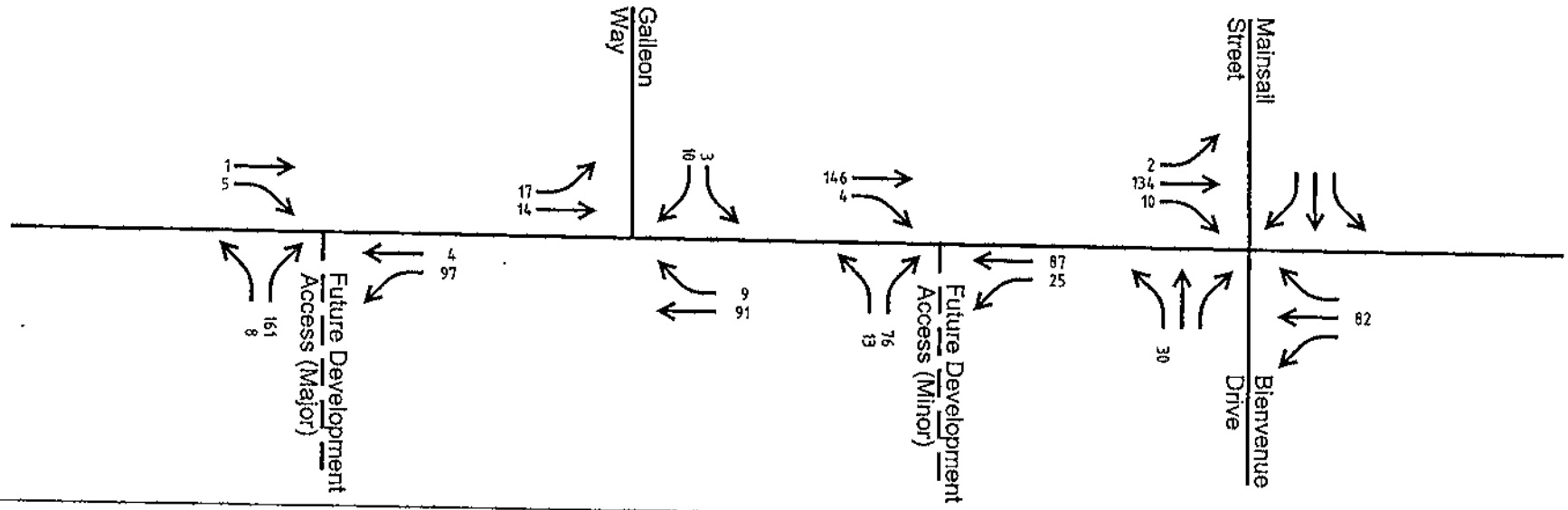
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568603TT

ESTIMATED 2019 TRAFFIC VOLUMES
(WITHOUT DEVELOPMENT)

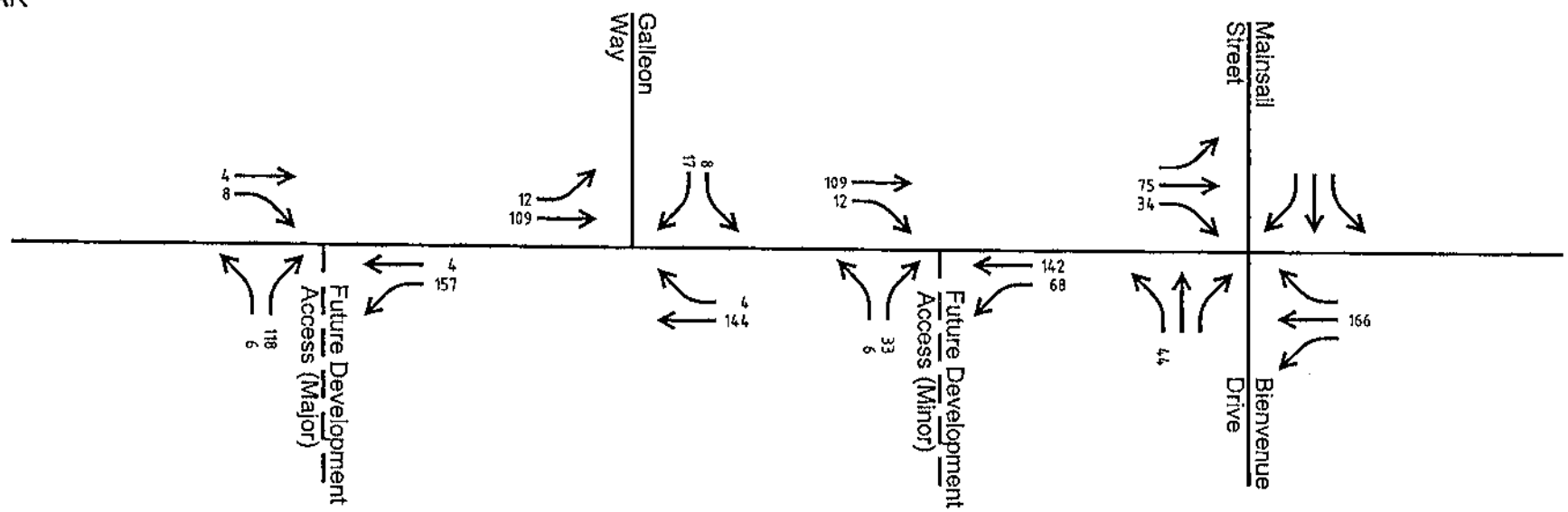
FIGURE No. 2.7

Connell Wagner

AM PEAK



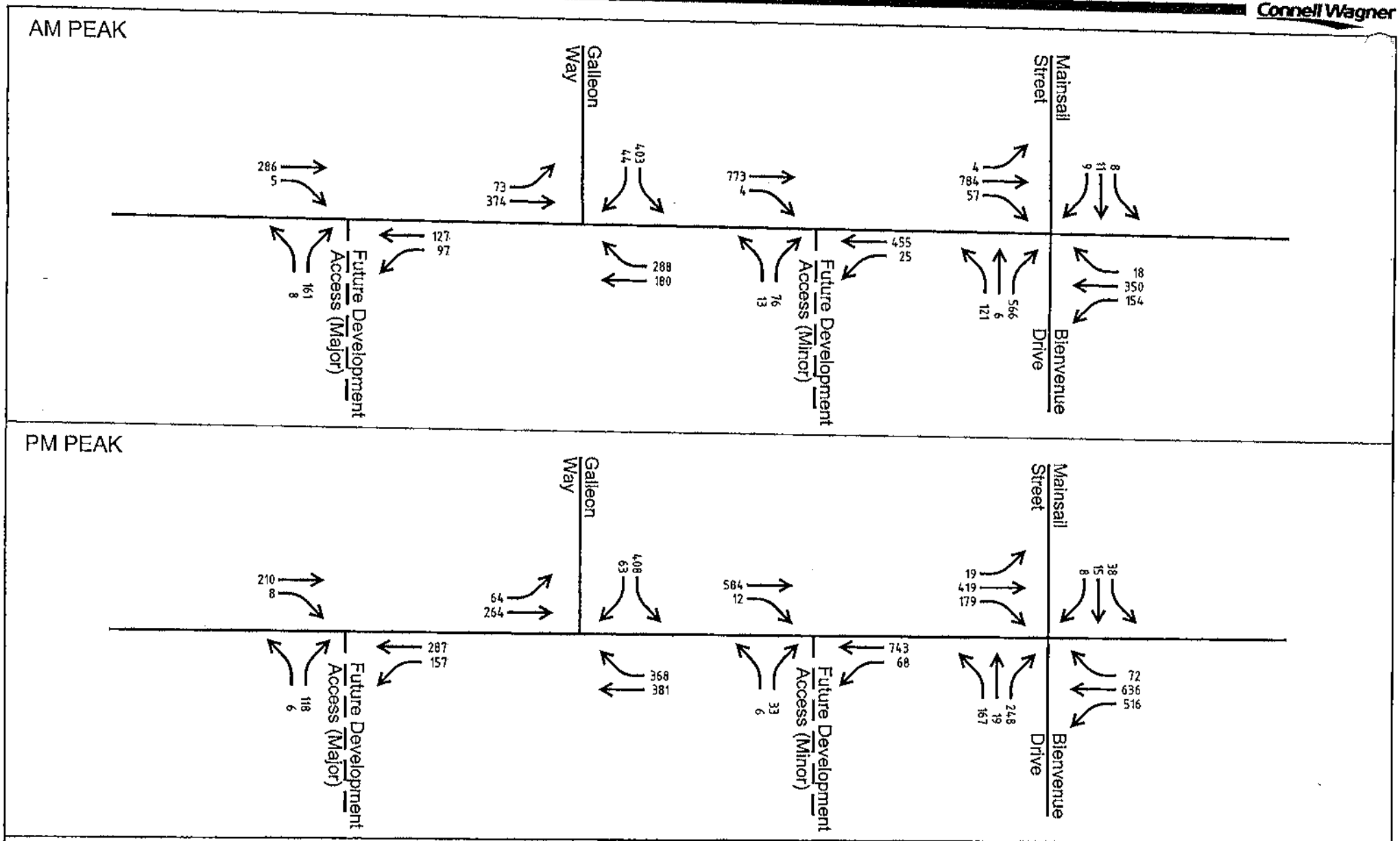
PM PEAK



GOLD COAST GOLF RESORT CURRUMBIN
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568603TT

DEVELPMENT TRAFFIC
REV A

FIGURE No. 2.8

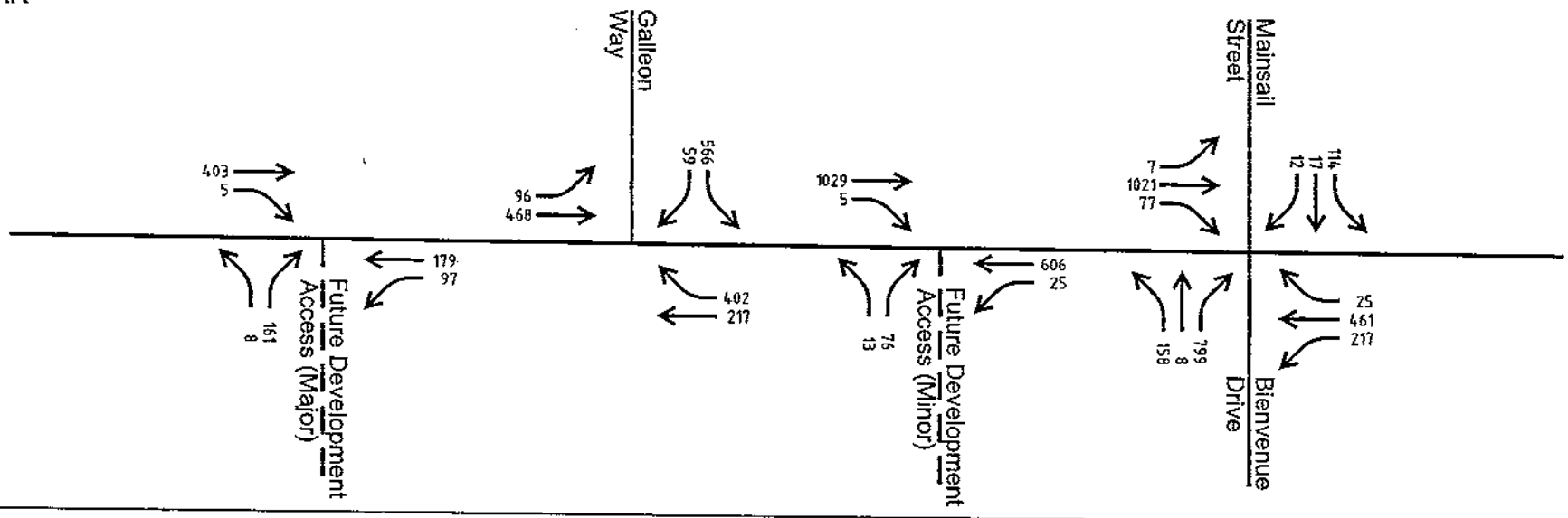


GOLD COAST GOLF RESORT CURRUMBIN
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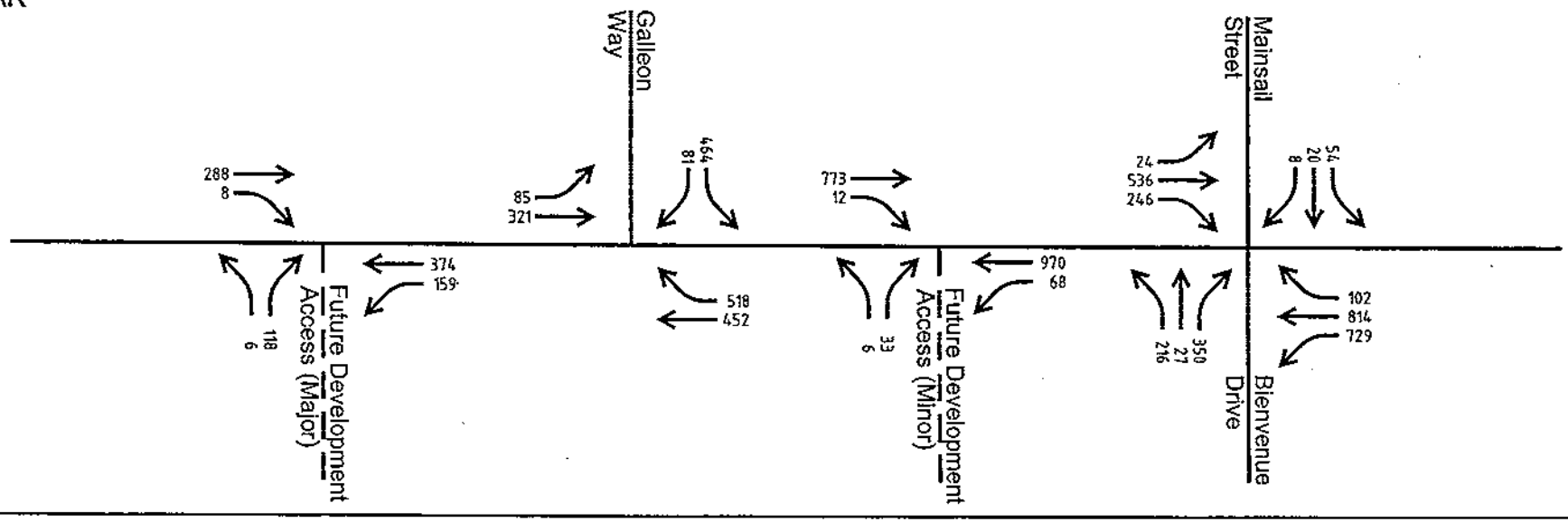
ESTIMATED 2009 TRAFFIC VOLUMES
(WITH DEVELOPMENT)

FIGURE No. 2.9

AM PEAK



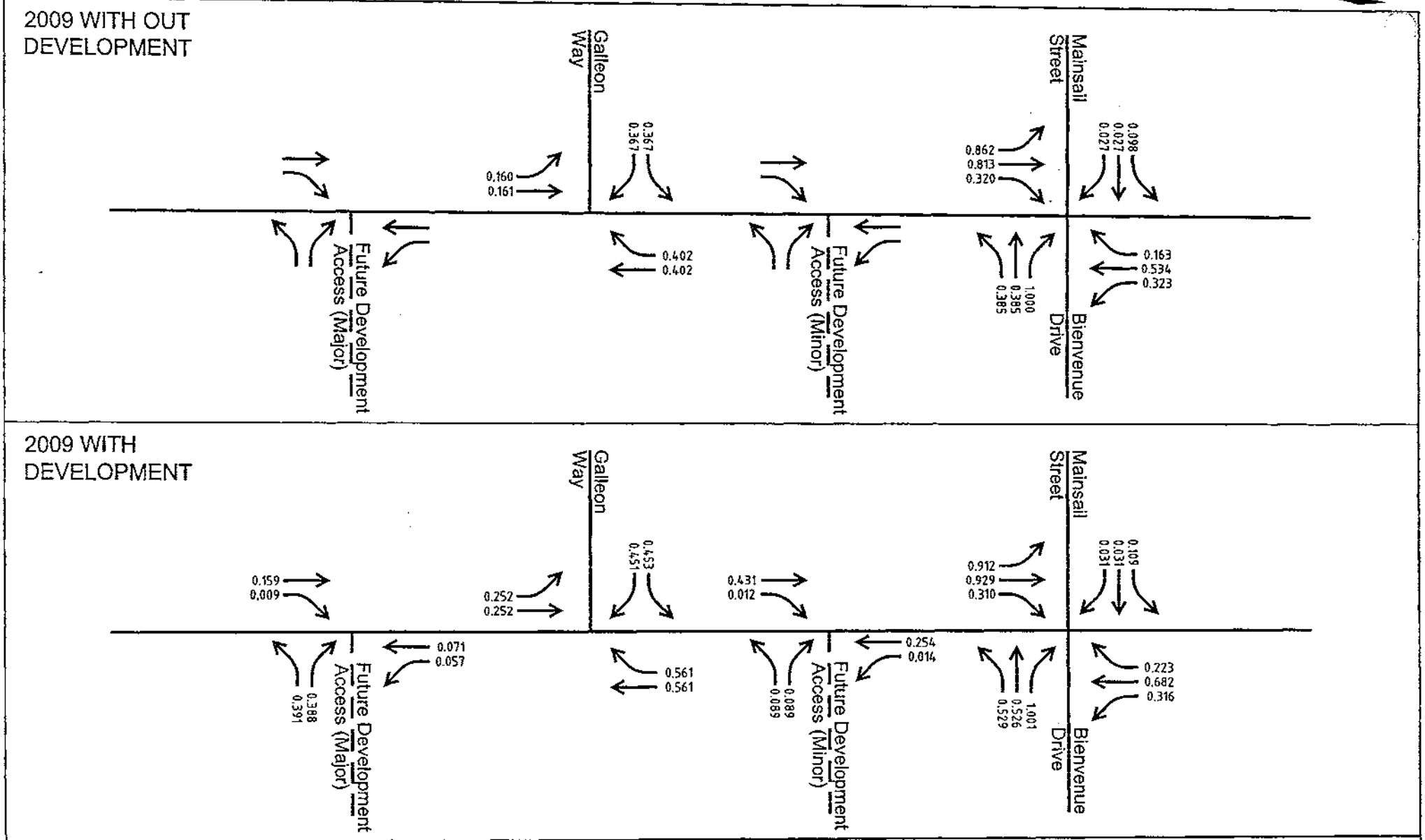
PM PEAK



GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
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ESTIMATED 2019 TRAFFIC VOLUMES
(WITH DEVELOPMENT)

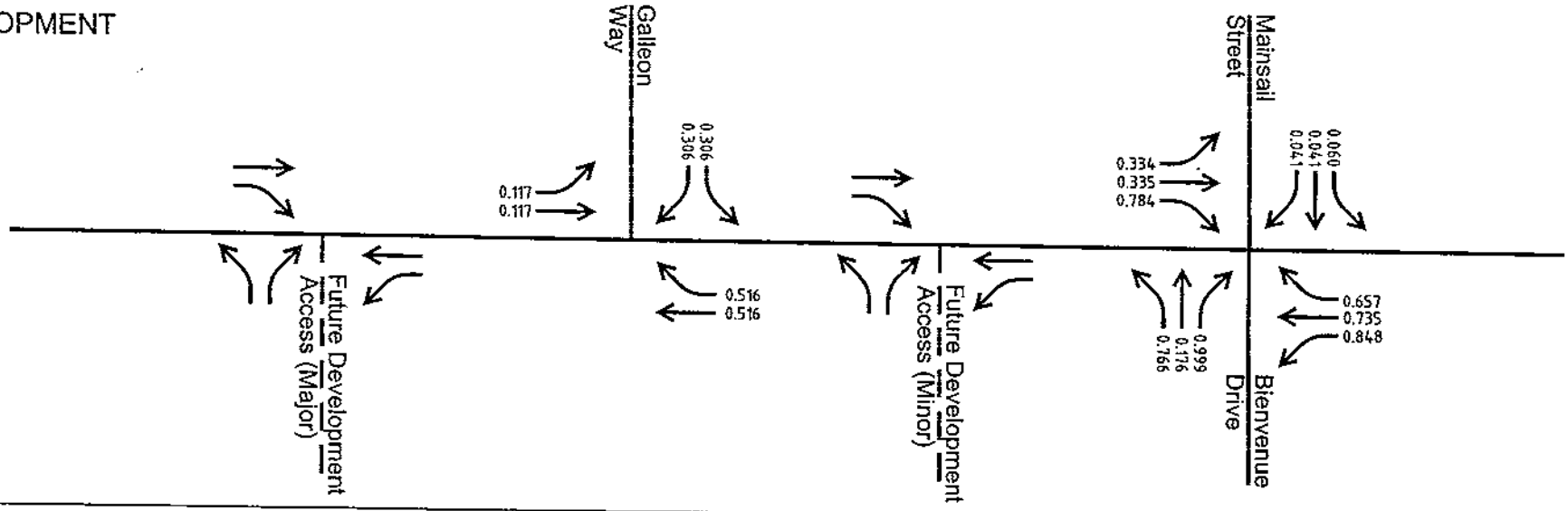
FIGURE No. 2.10



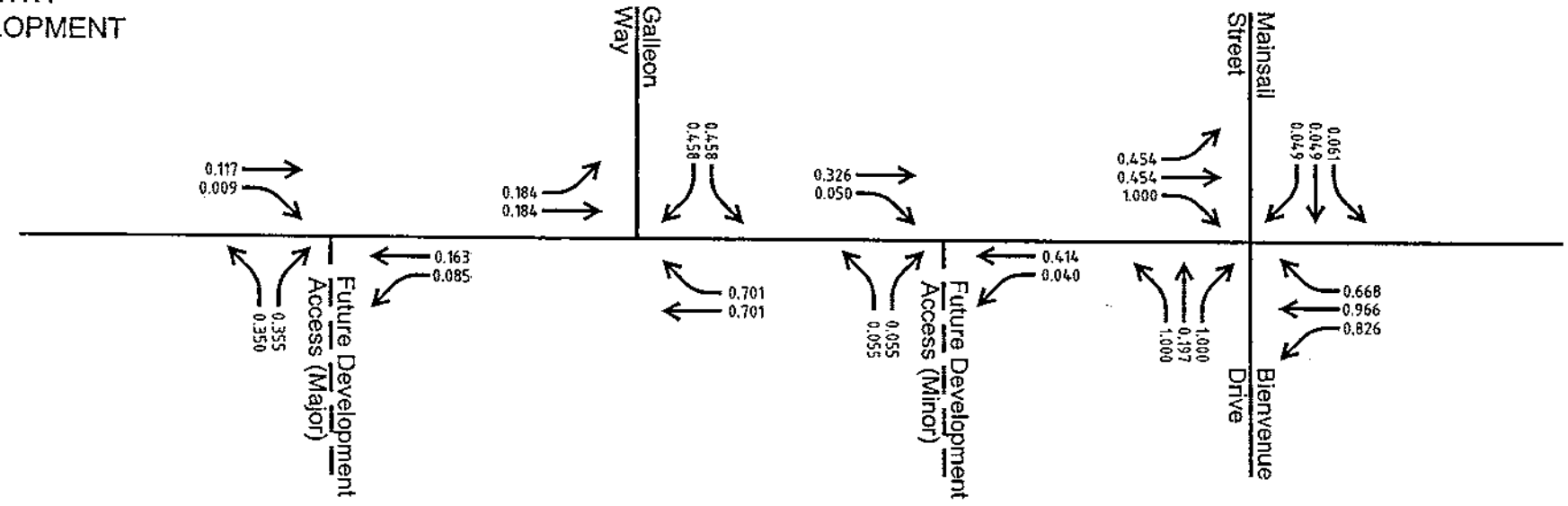
GOLD COAST GOLF RESORT CURRUMBIN
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D.O.S.
(WITH / WITHOUT DEVELOPMENT) - 2009 AM PEAK
FIGURE No. 3.1

2009 WITHOUT DEVELOPMENT



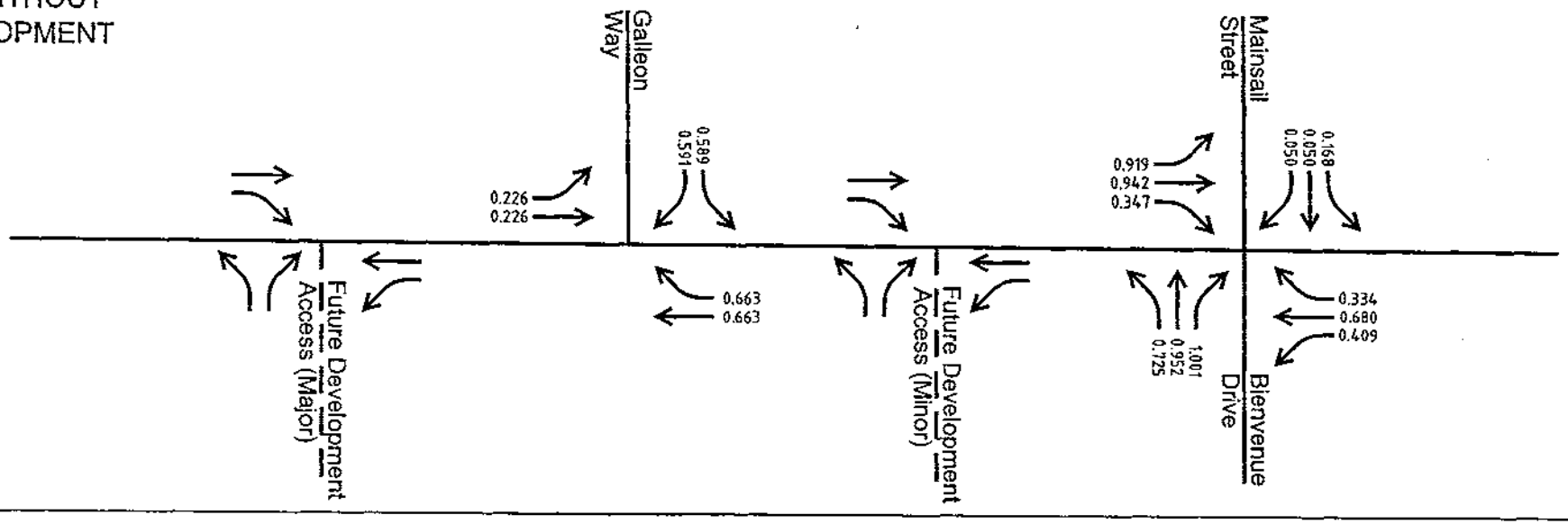
2009 WITH DEVELOPMENT



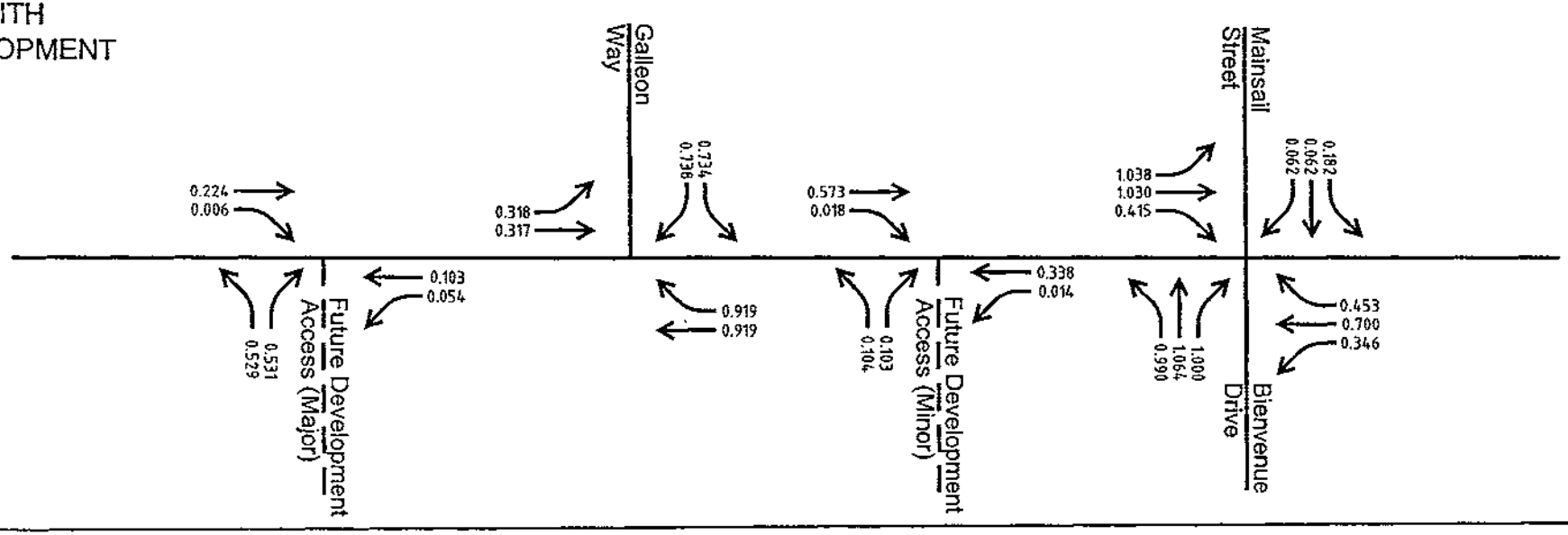
GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

D.O.S.
(WITH / WITHOUT DEVELOPMENT) - 2009 PM PEAK
FIGURE No. 3.2

2019 WITHOUT DEVELOPMENT



2019 WITH DEVELOPMENT

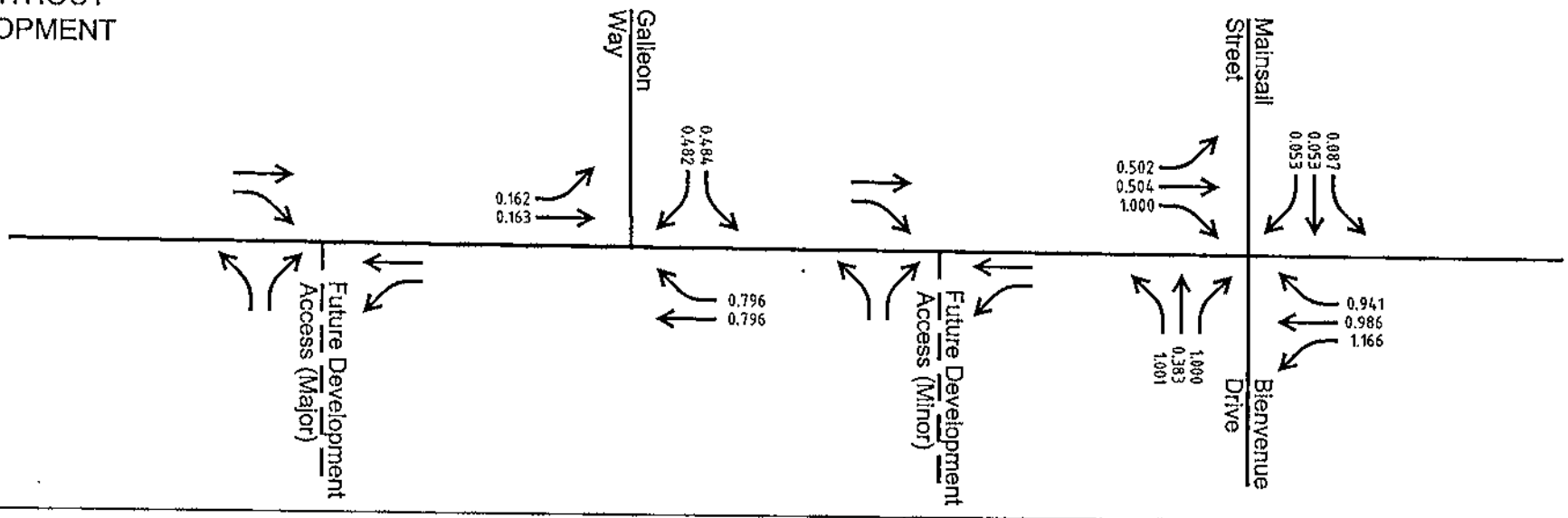


GOLD COAST GOLF RESORT CURRUMBIN
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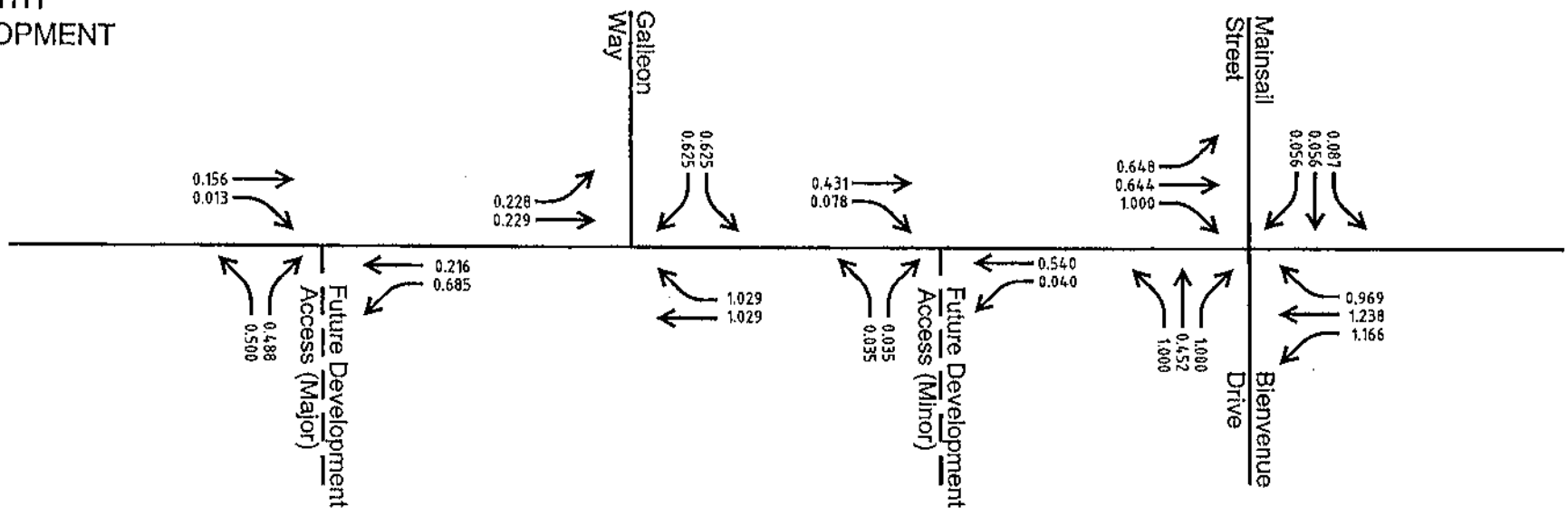
D.O.S.
(WITH / WITHOUT DEVELOPMENT) - 2019 AM PEAK

FIGURE No. 3.3

2019 WITHOUT DEVELOPMENT



2019 WITH DEVELOPMENT

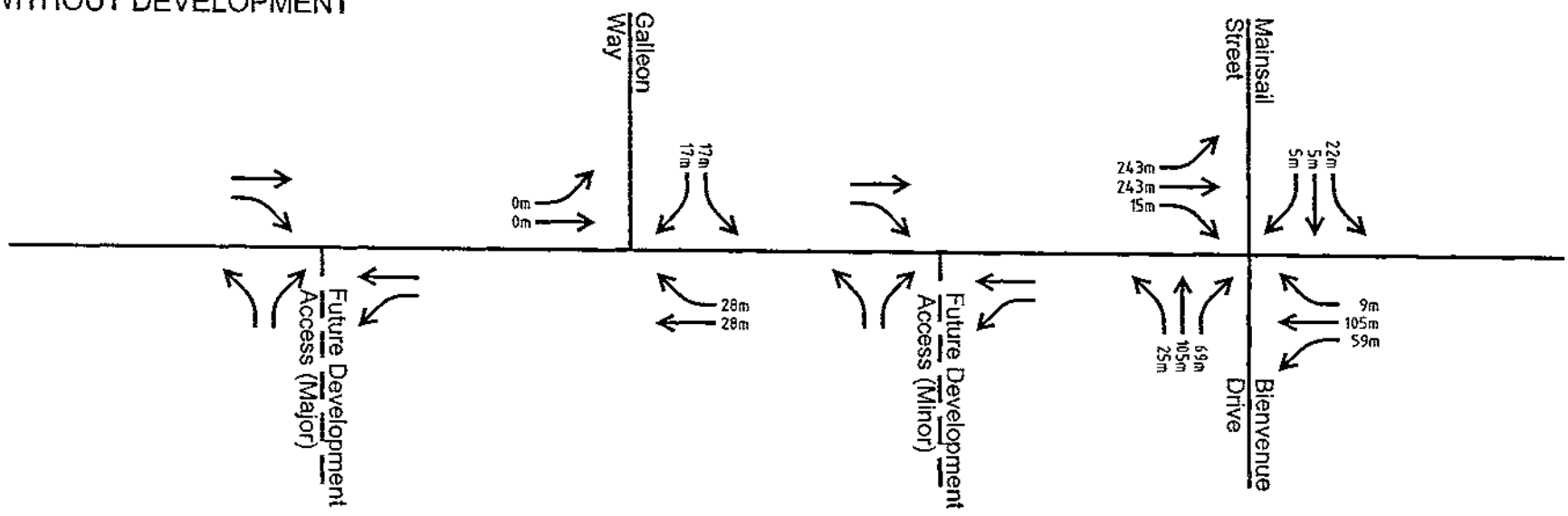


GOLD COAST GOLF RESORT CURRUMBIN
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568603TT

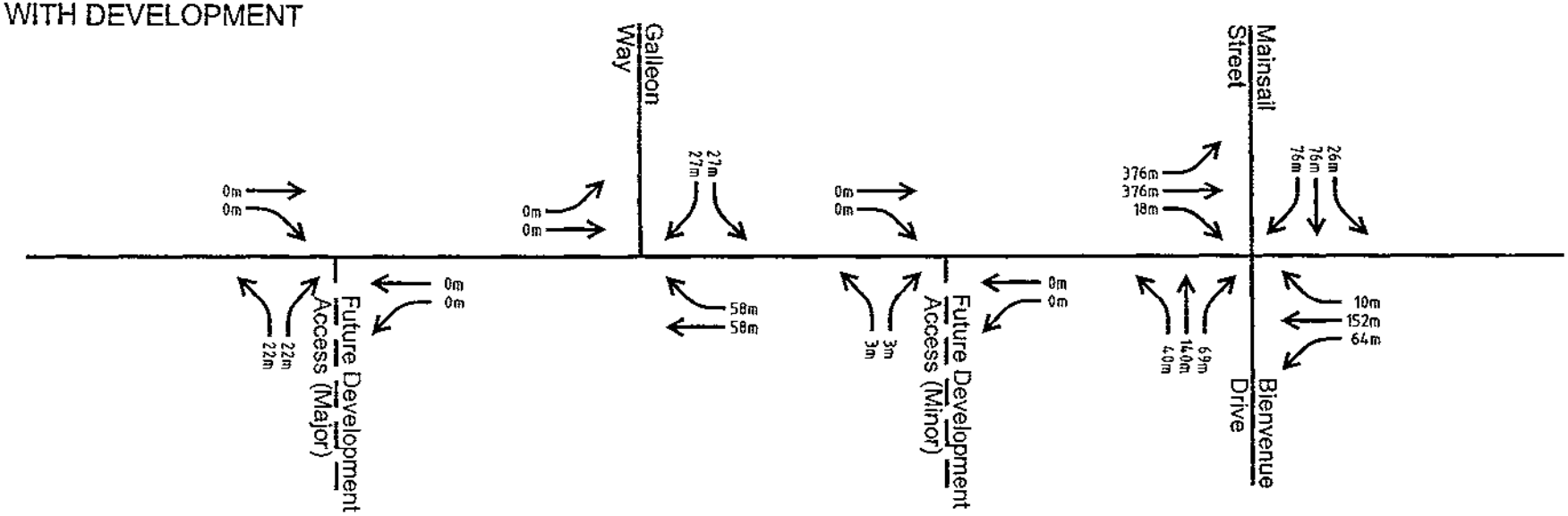
D.O.S.
(WITH / WITHOUT DEVELOPMENT) - 2019 PM PEAK

FIGURE No. 3.4

2009 - WITHOUT DEVELOPMENT



2009 - WITH DEVELOPMENT

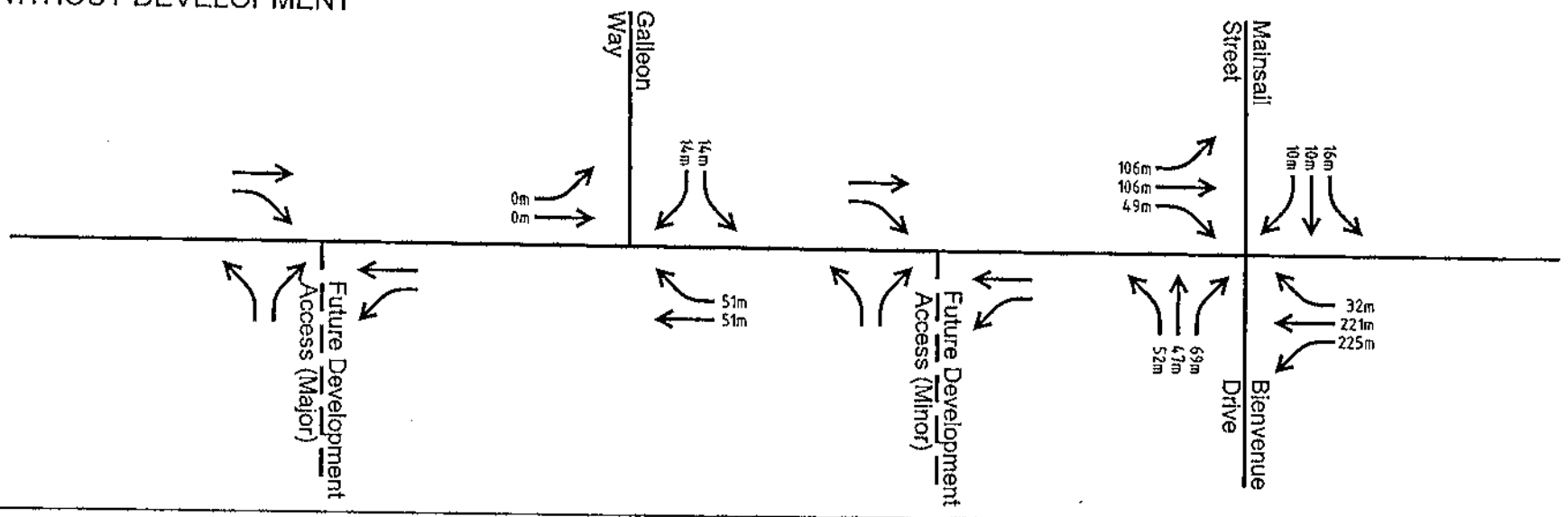


GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

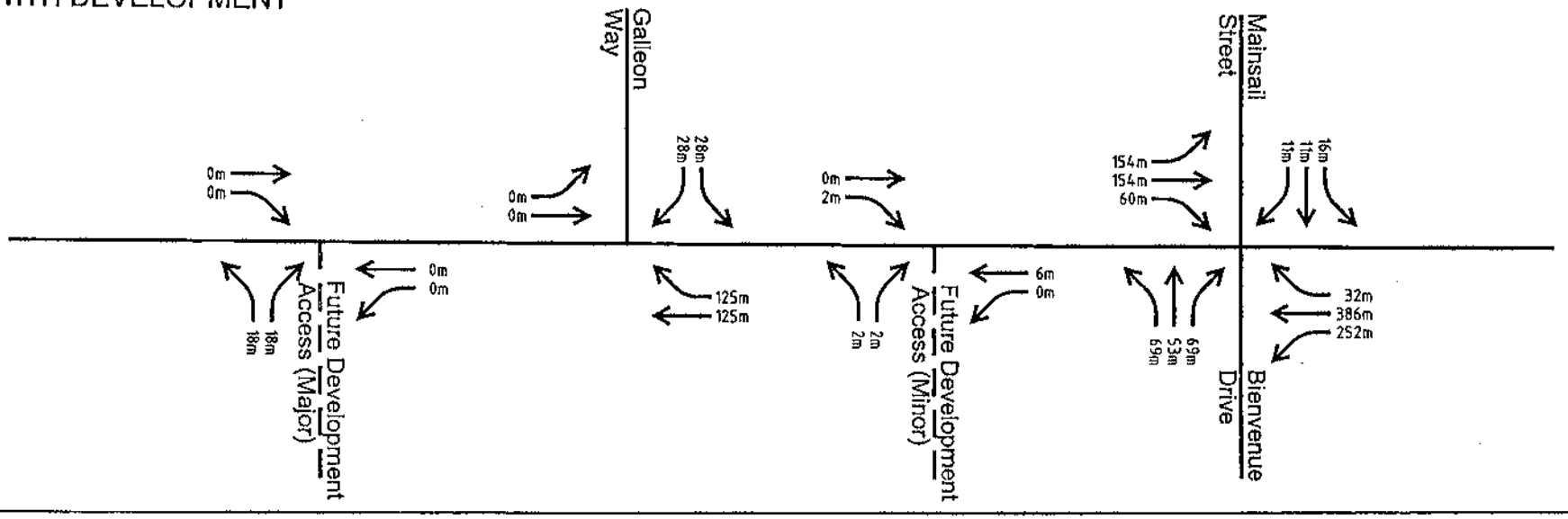
QUEUE LENGTH
(WITH / WITHOUT DEVELOPMENT) - 2009 AM PEAK

FIGURE No. 3.5

2009 - WITHOUT DEVELOPMENT



2009 - WITH DEVELOPMENT

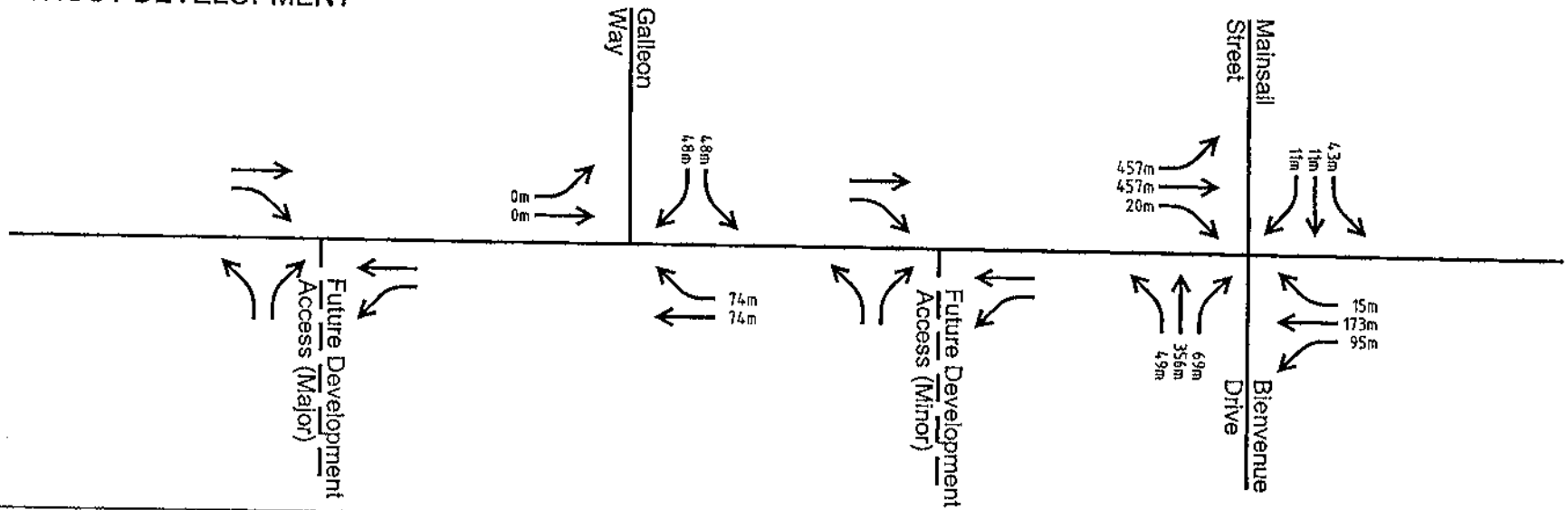


GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

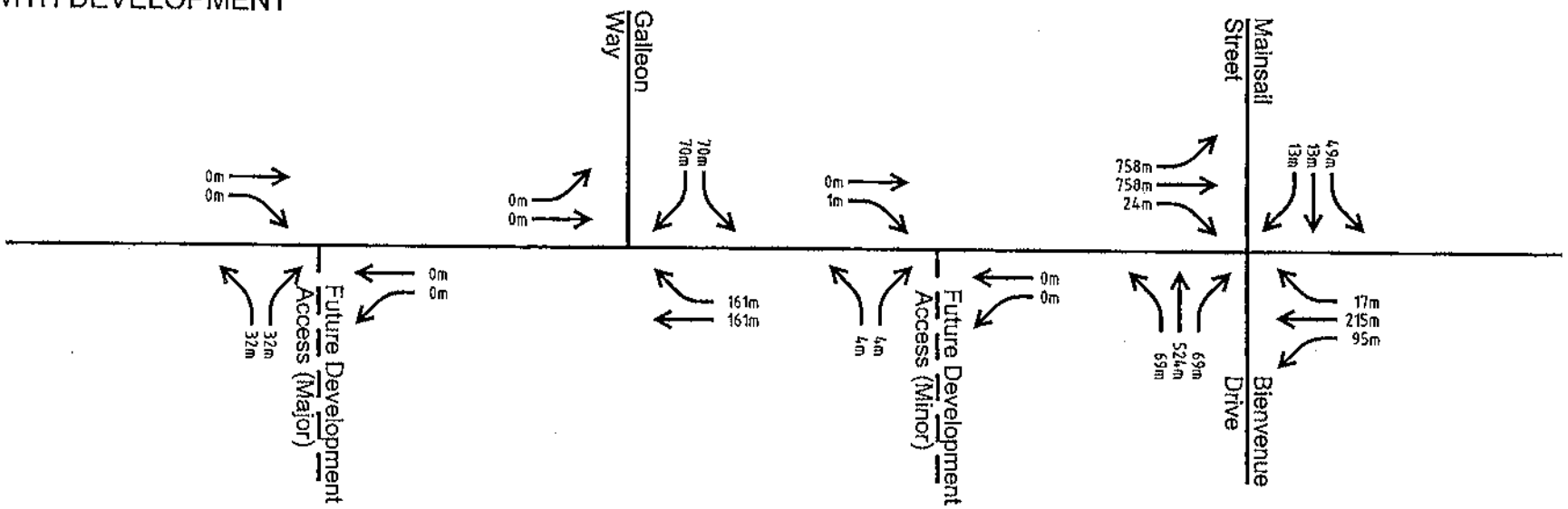
QUEUE LENGTH
(WITH / WITHOUT DEVELOPMENT) - 2009 PM PEAK

FIGURE No. 3.6

2019 - WITHOUT DEVELOPMENT



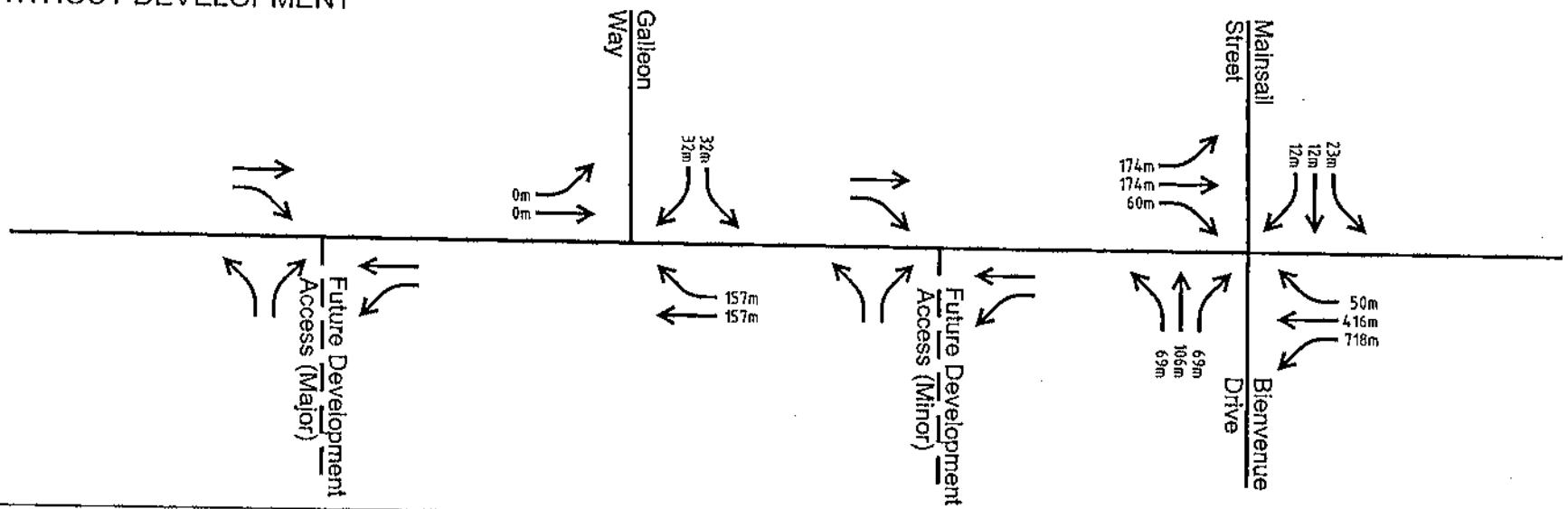
2019 - WITH DEVELOPMENT



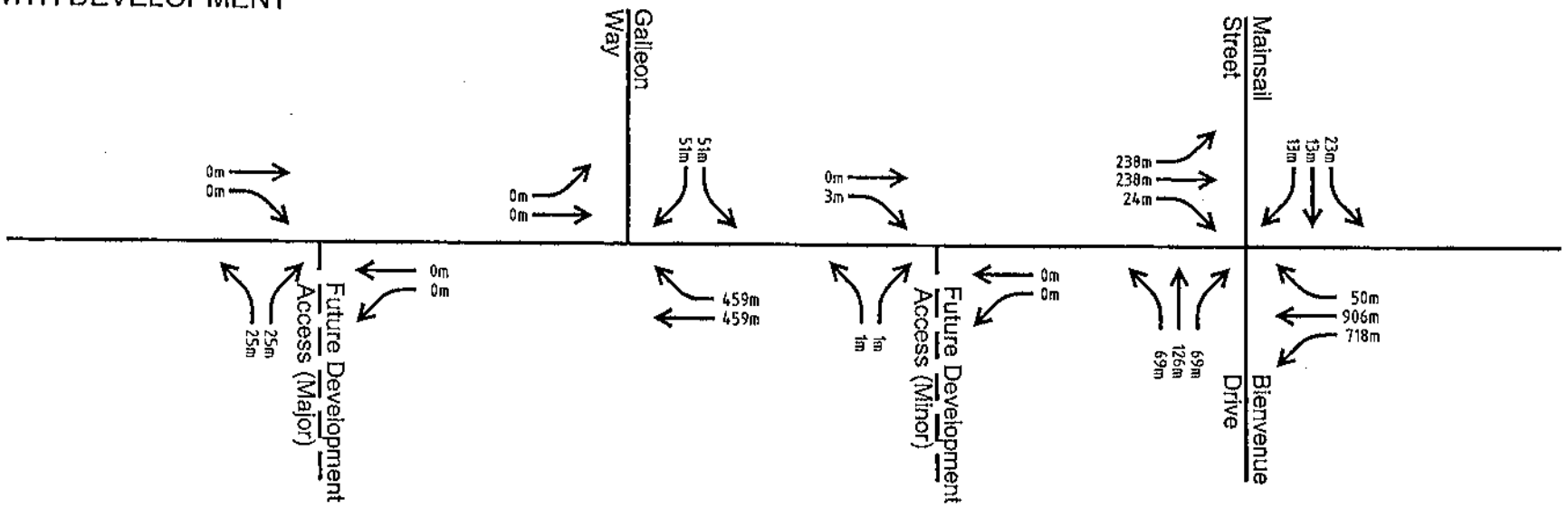
GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

QUEUE LENGTH
(WITH / WITHOUT DEVELOPMENT) - 2019 AM PEAK
FIGURE No. 3.7

2019 - WITHOUT DEVELOPMENT



2019 - WITH DEVELOPMENT

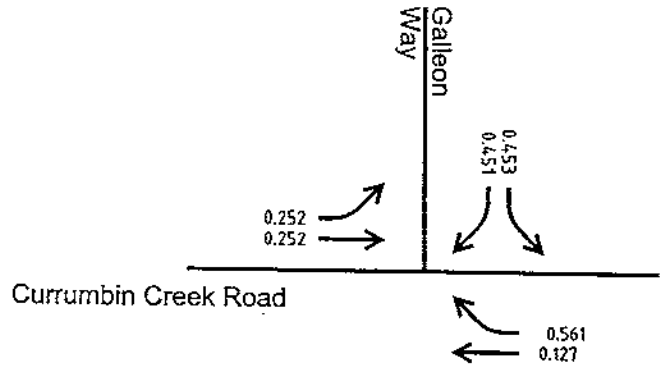


GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

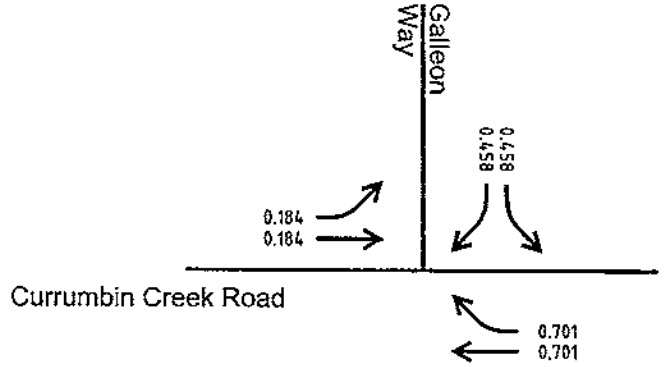
QUEUE LENGTH
(WITH / WITHOUT DEVELOPMENT) - 2019 PM PEAK

FIGURE No. 3.8

EXISTING "T" JUNCTION

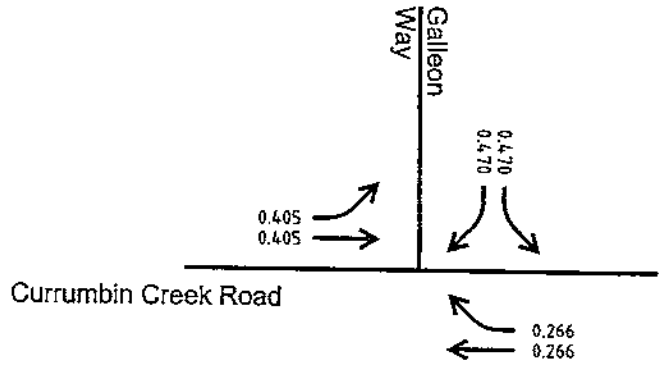


AM PEAK (DEGREE OF SATURATION)

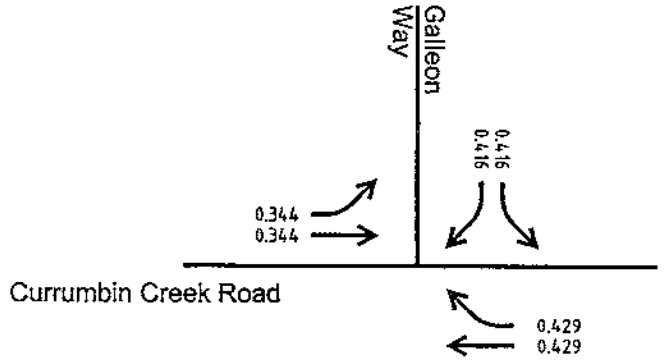


PM PEAK (DEGREE OF SATURATION)

ROUNDABOUT OPTION



AM PEAK (DEGREE OF SATURATION)

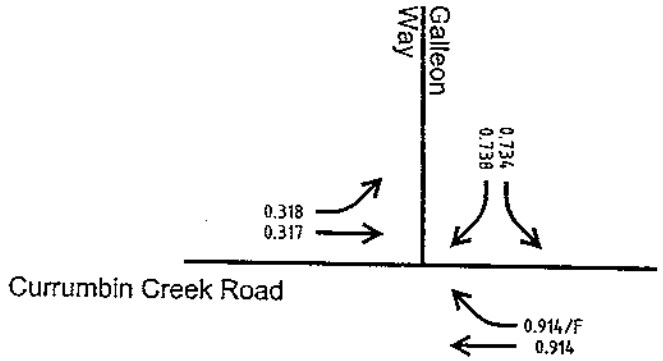


PM PEAK (DEGREE OF SATURATION)

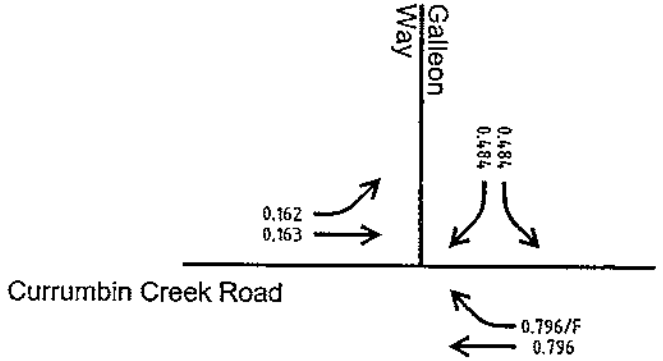
GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

(DEGREE OF SATURATION)
FIGURE No. 5.2

EXISTING "T" JUNCTION

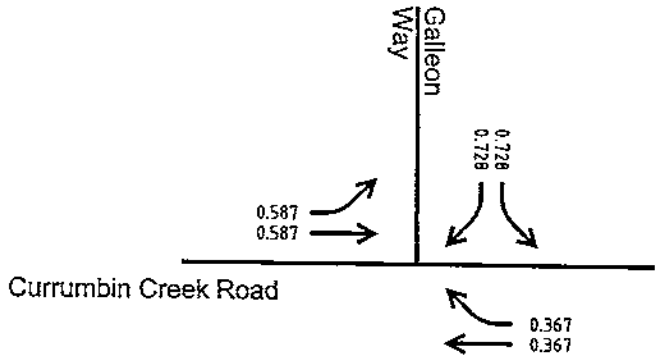


AM PEAK (DEGREE OF SATURATION)

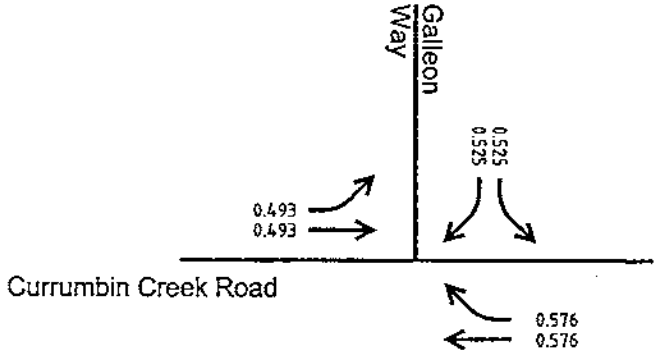


PM PEAK (DEGREE OF SATURATION)

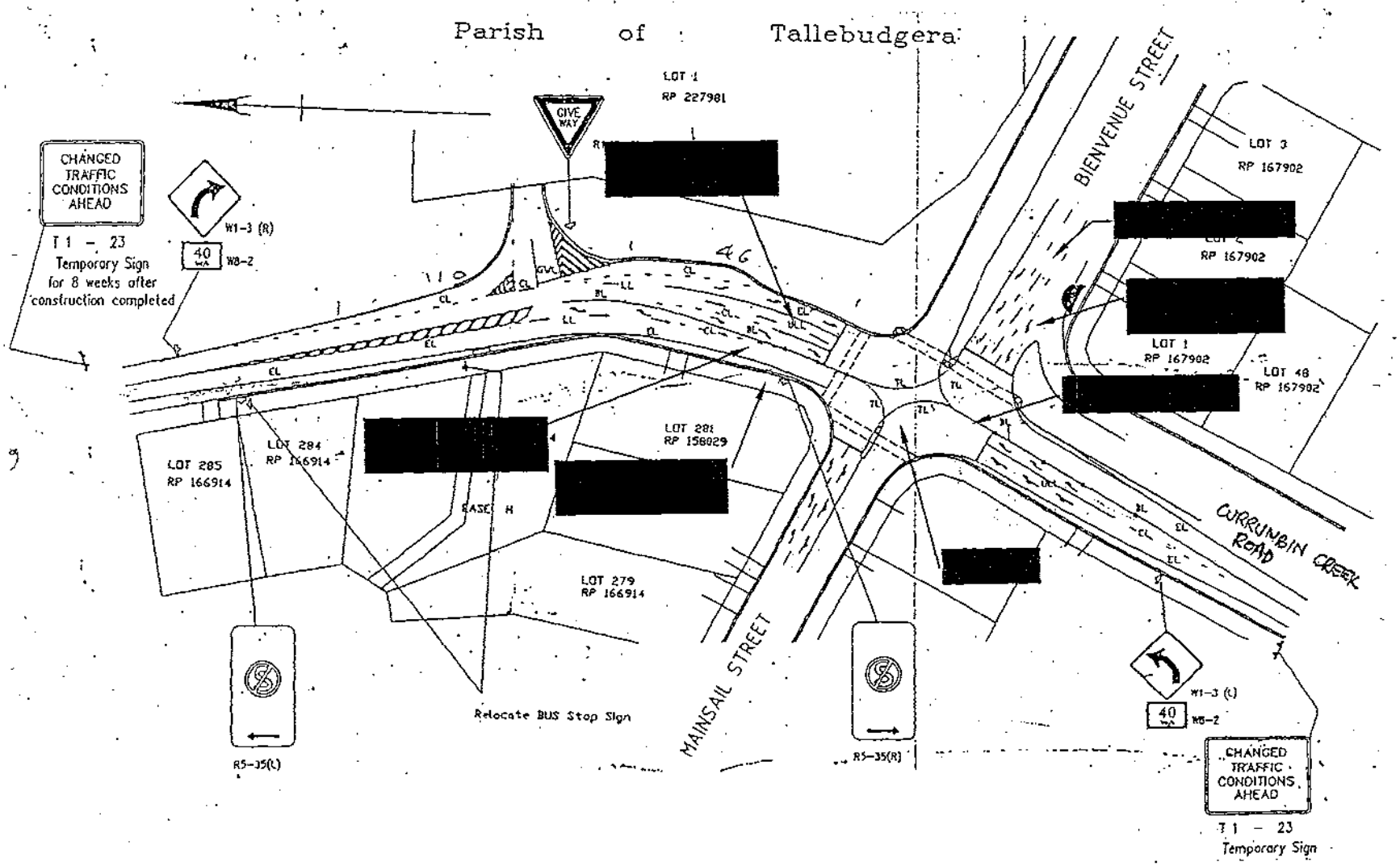
ROUNDABOUT OPTION



AM PEAK (DEGREE OF SATURATION)



PM PEAK (DEGREE OF SATURATION)

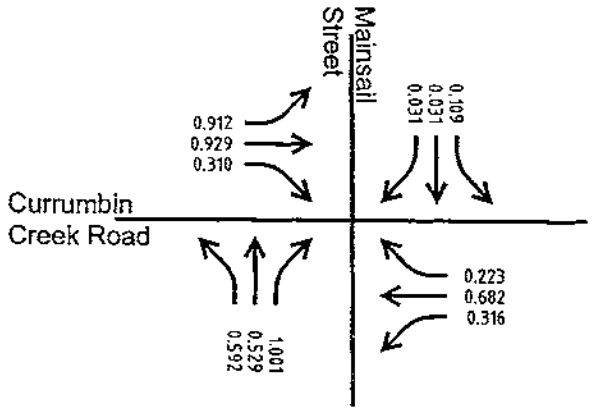


INDICATIVE REVENUE DRIVE

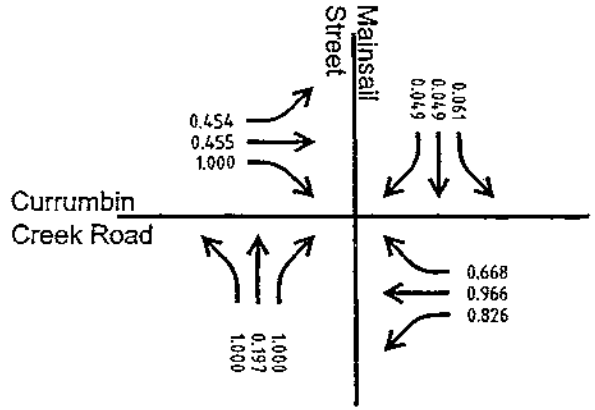
GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
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FIGURE No. 5.4

EXISTING ARRANGEMENT

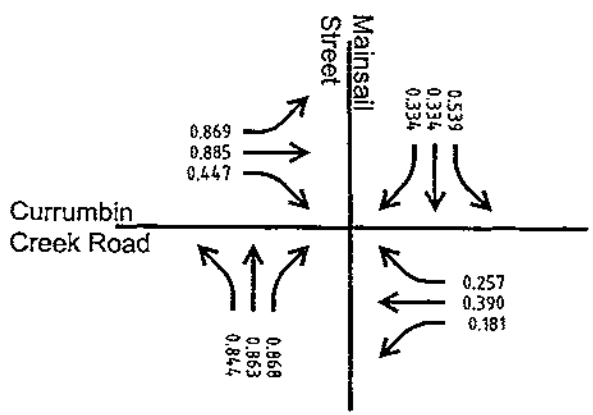


AM PEAK (DEGREE OF SATURATION)

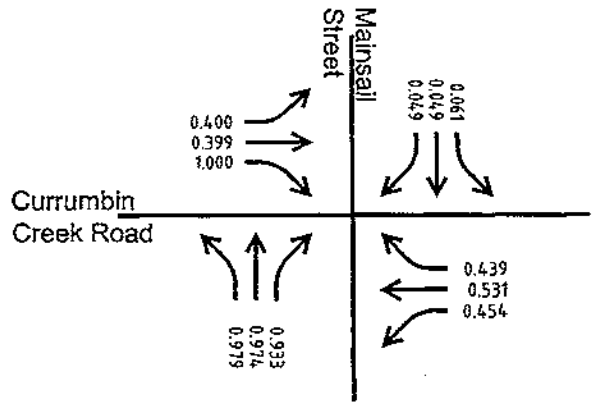


PM PEAK (DEGREE OF SATURATION)

REVISED LINEMARKING



AM PEAK (DEGREE OF SATURATION)

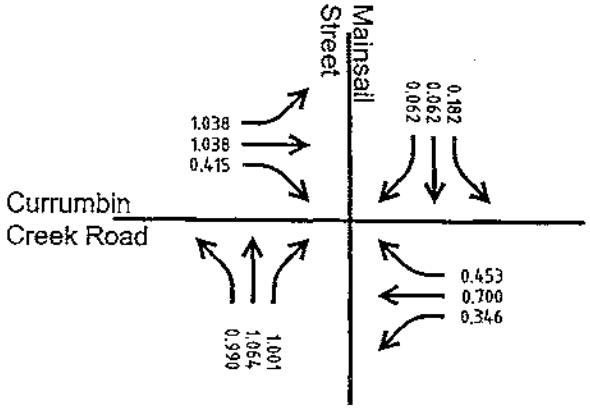


PM PEAK (DEGREE OF SATURATION)

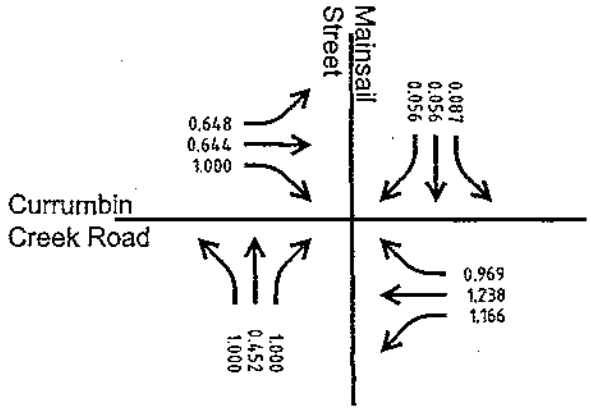
GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
568603TT

PM PEAK
(DEGREE OF SATURATION)
FIGURE No. 5.5

EXISTING ARRANGEMENT

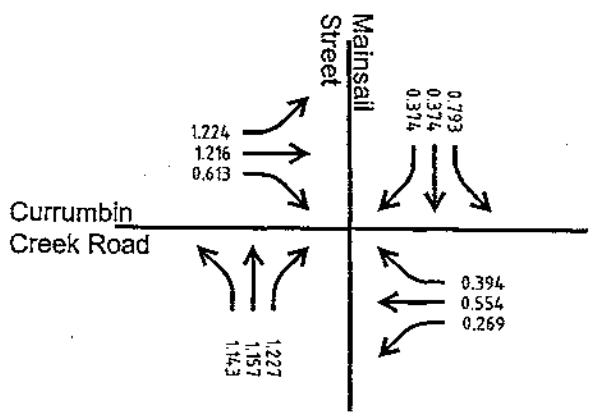


AM PEAK (DEGREE OF SATURATION)

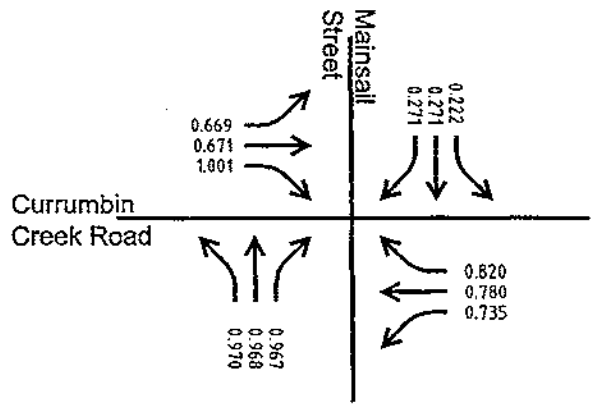


AM PEAK (DEGREE OF SATURATION)

REVISED LINEMARKING



AM PEAK (DEGREE OF SATURATION)



AM PEAK (DEGREE OF SATURATION)

GOLD COAST GOLF RESORT CURRUMBIN
ROAD IMPACT ASSESSMENT REPORT
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PM PEAK
(DEGREE OF SATURATION)
FIGURE No. 5.6

Appendix A

Existing Traffic Count Data

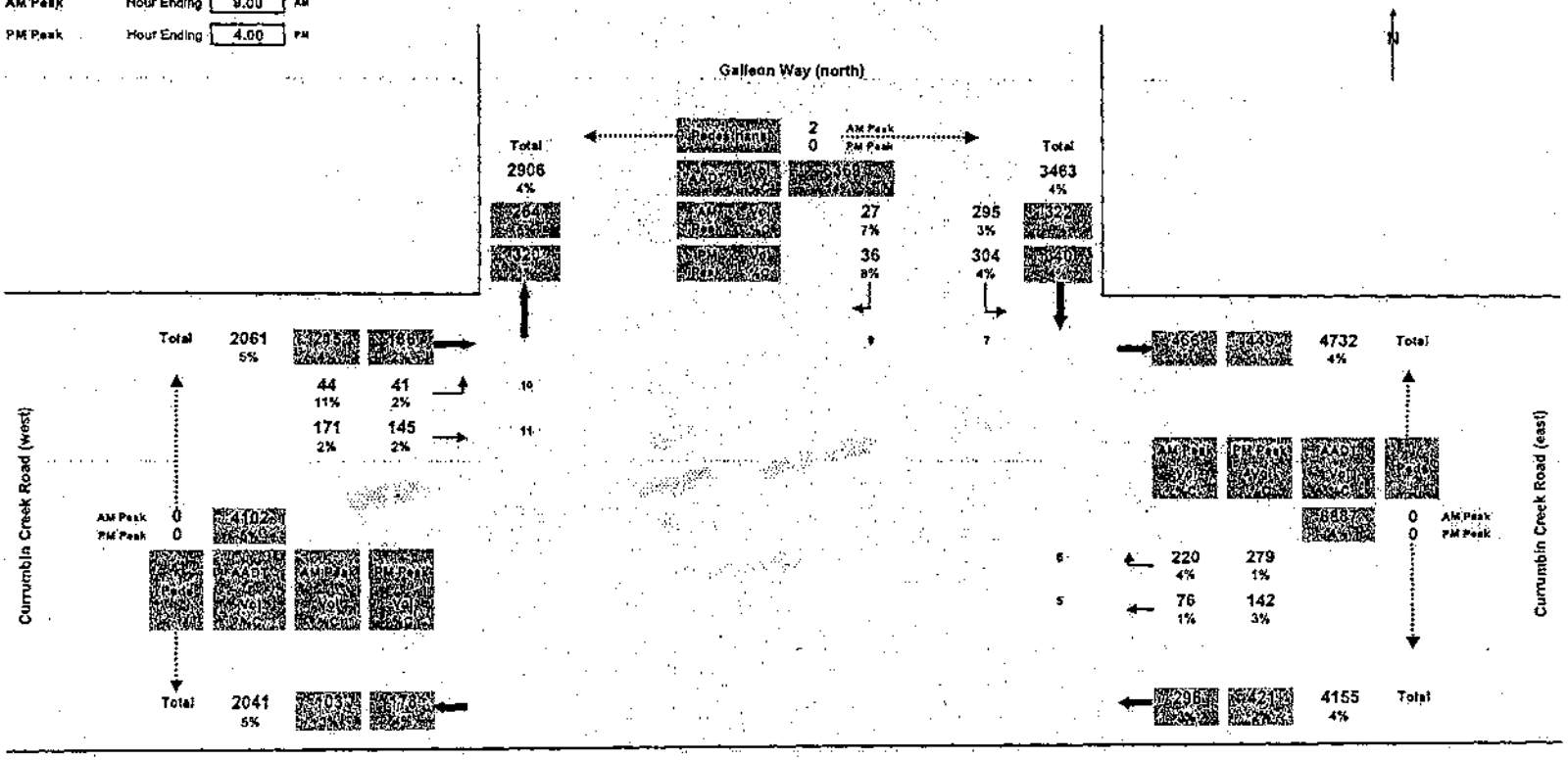
Queensland Government

South Coast Hinterland District
Traffic Census

Location	Currumbin Creek Road & Galleon Way			Suburb	Currumbin Waters
Main Road	2001	Survey Day/Date	Wed, 28 Aug 2002	Weather	Fine
File No.	200103_02.xls	Intersection Type	Give-Way	Signals, Roundabout or Stop/Give Way	

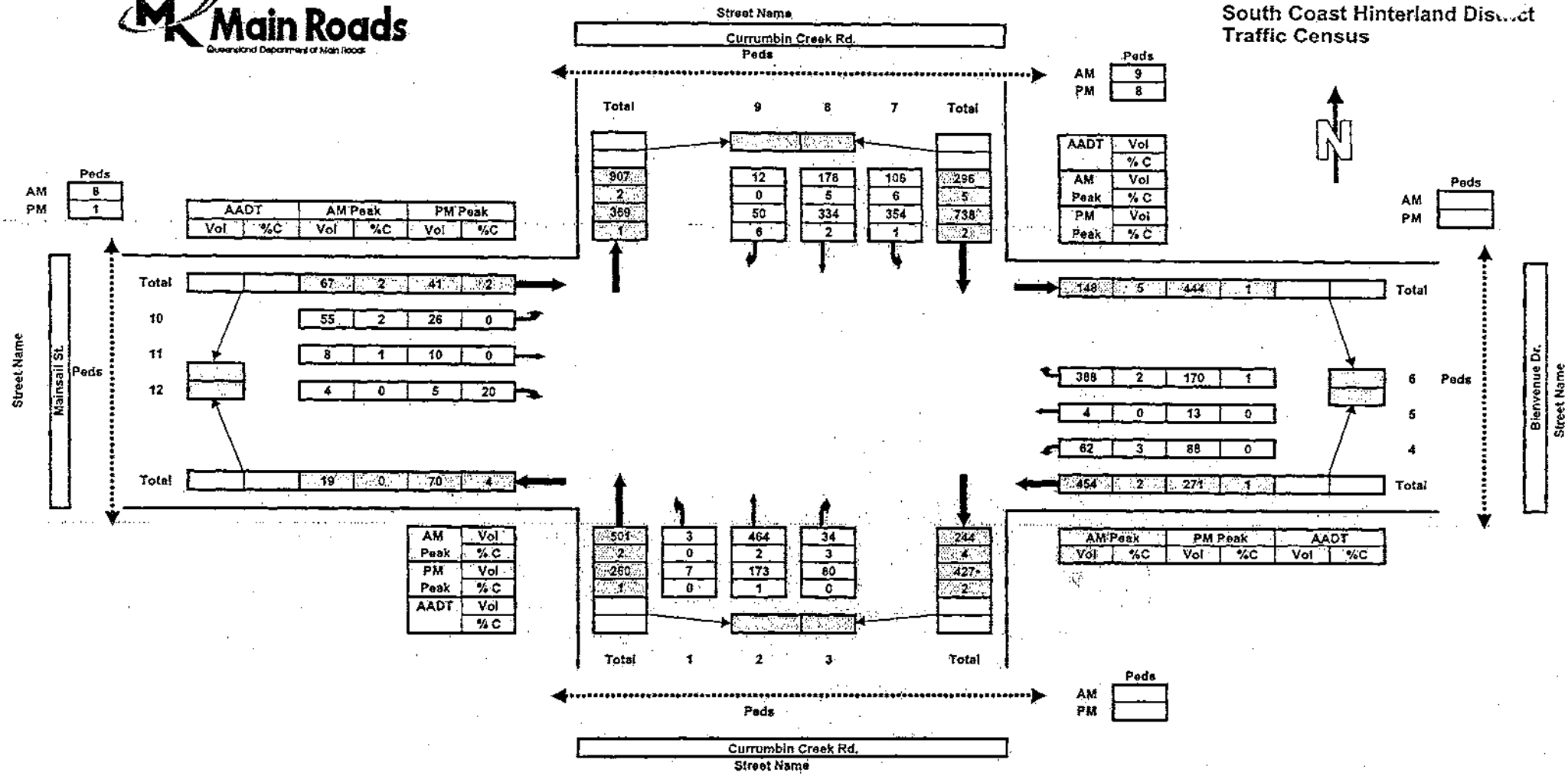
AM Peak Hour Ending 9.00 AM

PM Peak Hour Ending 4.00 PM



Main Roads
Queensland Department of Main Roads

South Coast Hinterland District Traffic Census



AM Peak Hour Ending 9.00 AM

PM Peak Hour Ending 4.15 PM

File No. 20019801

Location: Currumbin Creek Rd., Bienvenue Dr. & Mainsail St.

Suburb: Currumbin

Main Road: 2001

Day/Date: Thur, 28/05/98

Weather: Fine

Intersection Type: Signals

Signals, Roundabout or Stop/Give Way

Count4

Appendix B

Traffic Generation Calculations

Appendix B
Site Traffic Generation

1.1 Traffic Generation

This appendix details the basis of estimating the level of traffic that would be generated by the development.

1.2 Residential Trip Generation

The Master Plan envisages a total of 554 residential units or allotments. Only 34 units will be constructed as detached dwellings, all other units will be townhouses, condominiums, etc. In this area, the attached dwellings, are likely to be occupied by a reasonably sedentary population.

The generation rates adopted in accordance with the District 14 "Development Assessment Guide" are therefore considered to be conservative.

The rates adopted are:

- Detached dwellings – 10 trips/day with AM & PM peak 0.8 trips/dwelling.
- Attached dwellings – 6 trips/day with AM & PM peak 0.6 trips/Town house and Twin Villa and 0.4 trips/5 plex and Condominiums.

Morning peak generation is based on 75% of trips being outbound trips while evening peak generation is based on 33% of trips being outbound trips.

On this basis the residential generation for 546 dwelling units is:

34 Detached Residences	**In**	**Out**	**Total**
AM Peak	7	19	26
PM Peak	18	8	26

520 Attached Units	**In**	**Out**	**Total**
AM Peak	67	204	271
PM Peak	181	90	271

Therefore total residential traffic generation is taken as:

	In	**Out**	**Total**
AM Peak	74	223	297
PM Peak	199	98	297

The expected generation for the hotel was assessed in accordance with "Resort Traffic Surveys" produced by Main Roads (Qld).

Analysis of expected trip generation is as follows:

1.2.1 Guest Tips

Resort Type is Group B – Table 8.1.
Public access to sporting facilities with limited access to restaurants.
For resort with > 100 rooms adopt 90% occupancy as design case (No. of rooms = 96).
Therefore, design occupancy = 0.9 x 96 = 87 rooms.
From Table 8.2 the resort would be considered to have moderate on-site facilities as any retail/restaurants are incorporated with the hotel and cater predominantly for residents with limited usage by the public. The main public attraction is the golf course.
From Table 7.2 for moderate on-site facilities and moderate % car arrivals:
Daily number of guest tips/occupied room = 1.5
Therefore, Number of daily trips = 1.5 x 87 = 131 trips/day.
From Table 8.3, % of daily travel in peak = 12.5%
Therefore, Peak Trip Generation = 0.125 x 87 = 11 veh/hour.

1.2.2 Bus Trips

From Table 6.9, the daily number of bus trips is 0.5 bus movements per occupied room for fringe urban development.
Therefore, Daily bus trip = 0.5 x 87 = 44 trips/day.
From Table 8.3, %of buses in peak is 10%.
Therefore, peak bus trips = 0.1 x 44 = 5 buses/hour.

1.2.3 Staff Trips

From Table 7.3, for an integrated resort the number of staff per occupied room was taken as 1.4 staff/room.
Therefore, Number of staff = 1.4 x 87 = 122 staff.
From Table 7.4 a daily staff trip rate of 20 + 1.32 x122 = 181 trips/day.
From Table 8.3, % of travel in peak is 10%.
Peak staff trip = 18 veh/hour.

1.2.4 Service Trips

For resort with staff numbers less than 450 staff, the number of service trips is taken as:
Service trips = 0.61 x No. of staff + 14
= 0.61 x 122 + 14
= 88 service trips

From Table 8.3, % of service trips during peak is 10%
Peak service trips = 0.1 x 129 = 9 veh/hour.

1.2.5 Summary of Hotel Trips

The hotel will generate approximately 43 vehiculare trips during peak and the assumed direction split is as follows:

AM Peak – 40% in/60% out (ie 17 in/26 out)
PM Peak – 60% in/40% out (ie 26 in/17 out)

1.3 Golf Course Generation

The main public attraction is the golf course and the assumed maximum generation during AM peak hour is assumed to be 12 groups of 4 golfers arriving and 4 groups leaving, and via versa for the PM peak.

A nominal car occupancy rate of 1.3 persons/vehicle was assumed.

Therefore golf course generation = $\frac{16 \times 4}{1.3}$ = 49 say 50 vph

The AM and PM peak split was taken as:
AM Peak – 80%in/20% out (40 in/10 out)
PM Peak – 20% in/80% out (10 in/40 out)

1.4 Retail/Restaurant Generation

The resort will be developed and promoted as an integrated development and as such the intention of the retail and restaurant development is specifically to cater for residents and hotel guests. These facilities will not be advertised or promoted as public attractions and will be located within the Hotel precinct not visible from Currumbin Creek Road.

The retail/restaurant GFA will be sufficient to service resort guests and residents only. The final floor area has not as yet been finalised.

On this basis only nominal traffic generation has been attributed to the restaurant and retail functions of the resort as follows:

Restaurant 400m2 GFA assumed with 80% internally sourced custom. Therefore, evening road peak generation would be approximately 4 entering vehicles.

Retail 400m2 GFA assumed with 80% internally sourced custom. Therefore evening road peak generation would be approximately 8 entering and 8 departing vehicles.

Appendix C

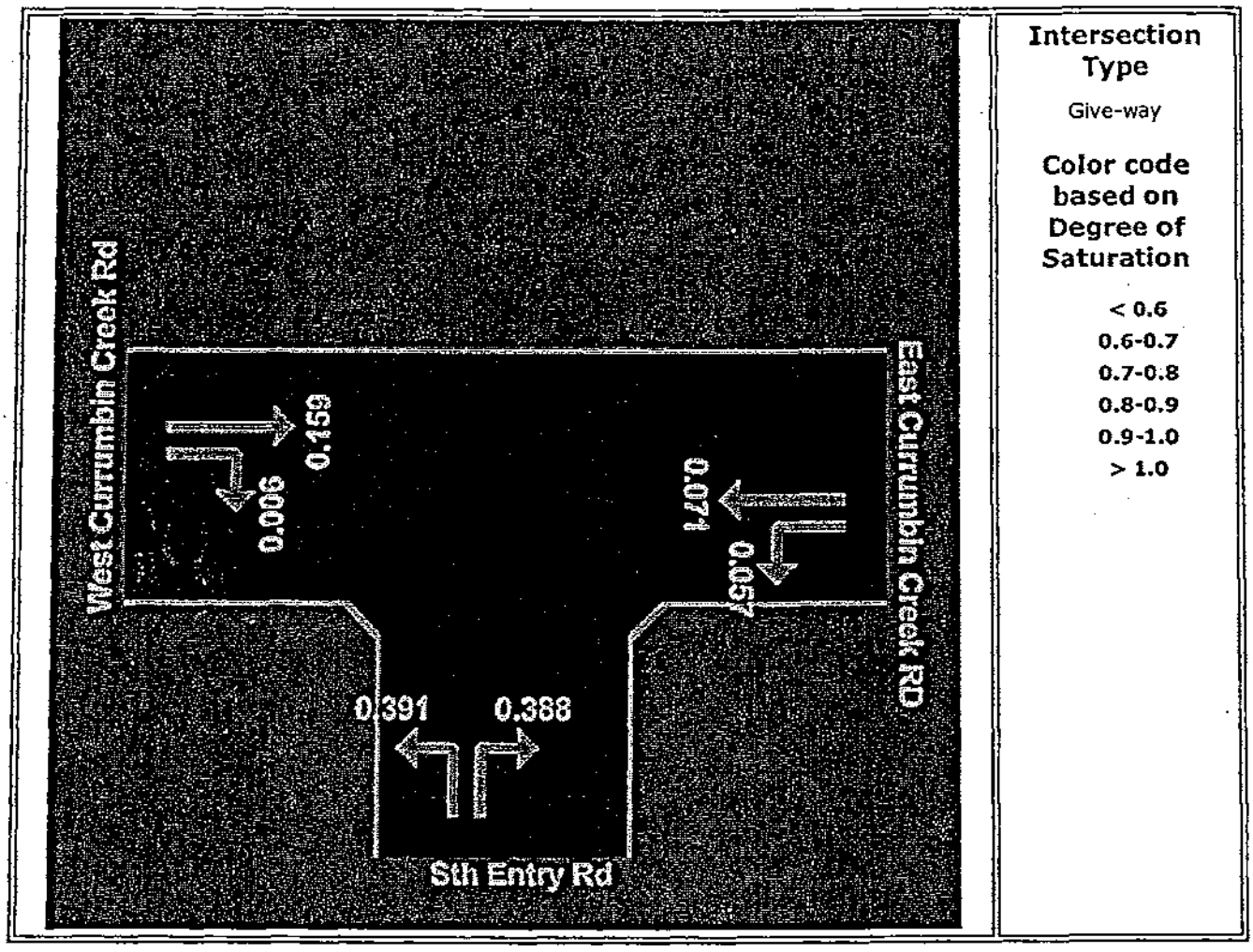
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek Rd/Major Access 2009 AM



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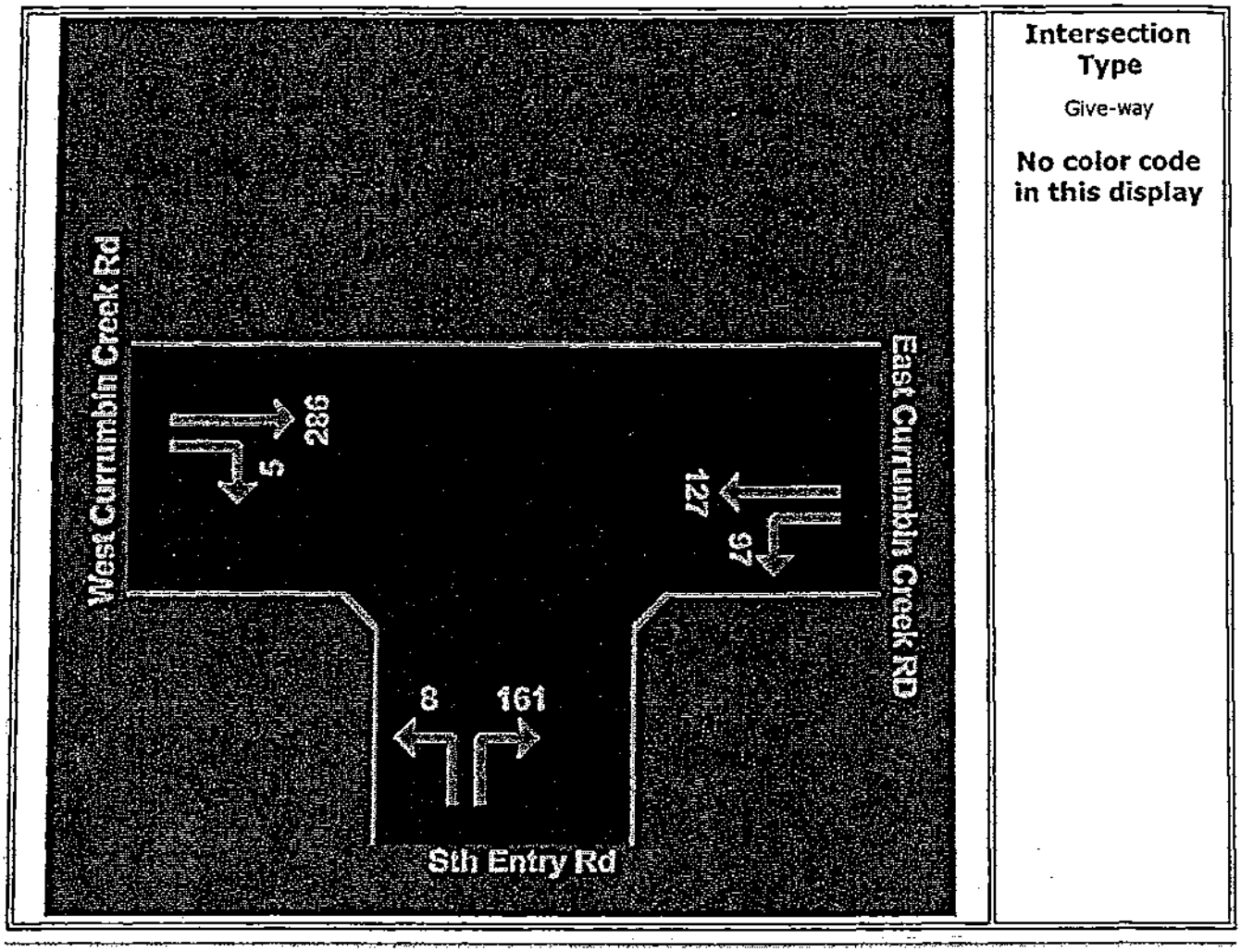
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Input Volumes

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Total flow rates as given by the user (veh/60 min)

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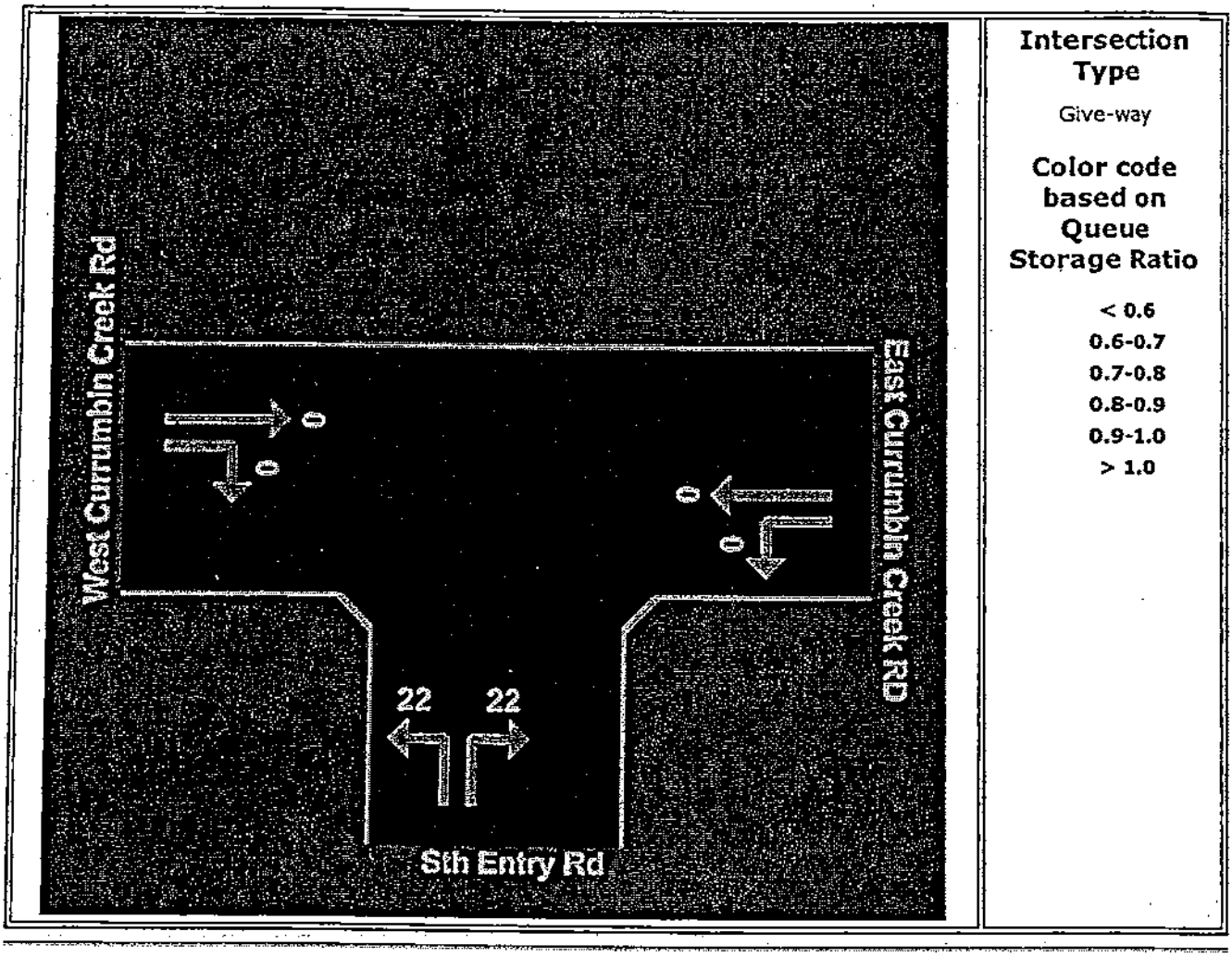
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

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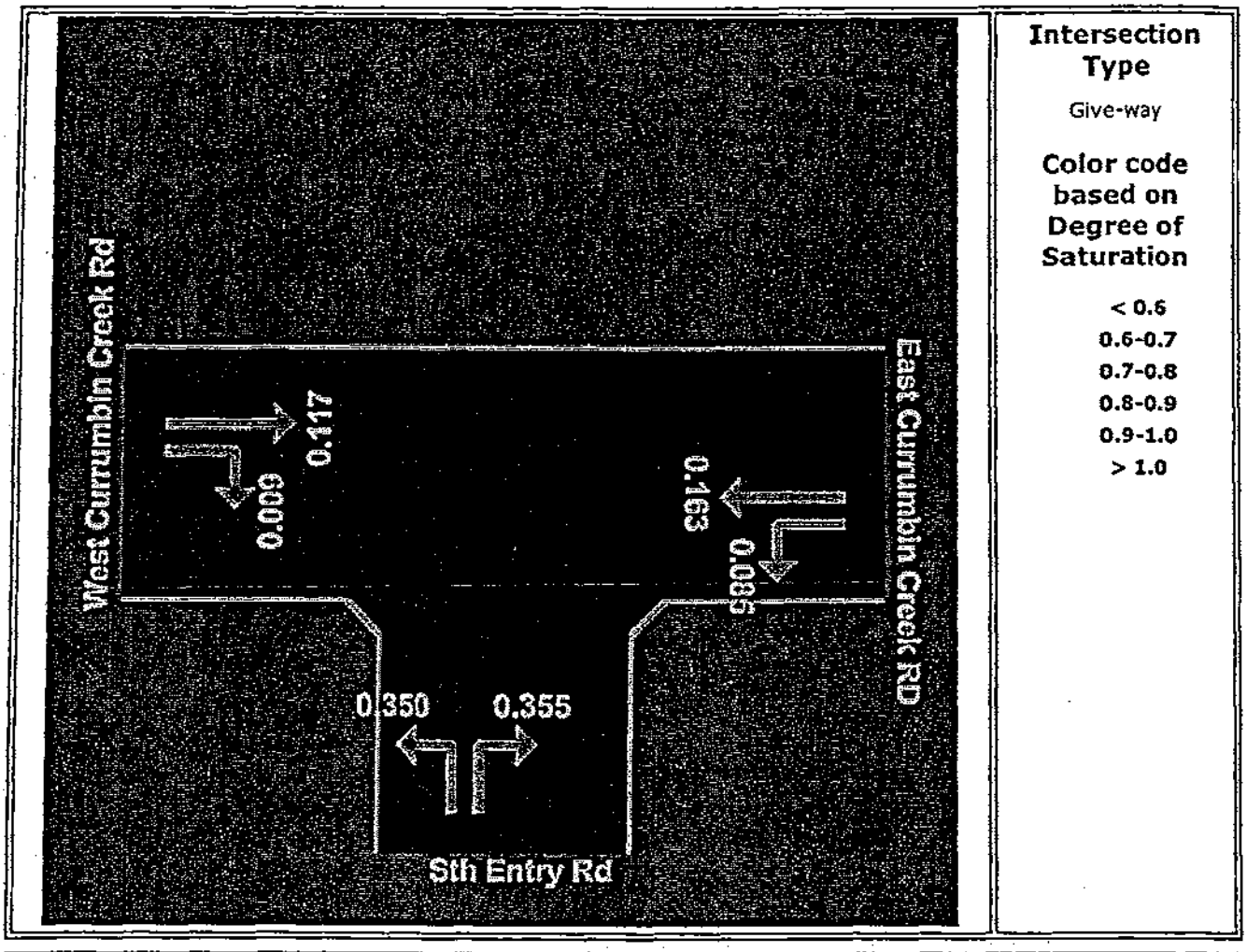
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

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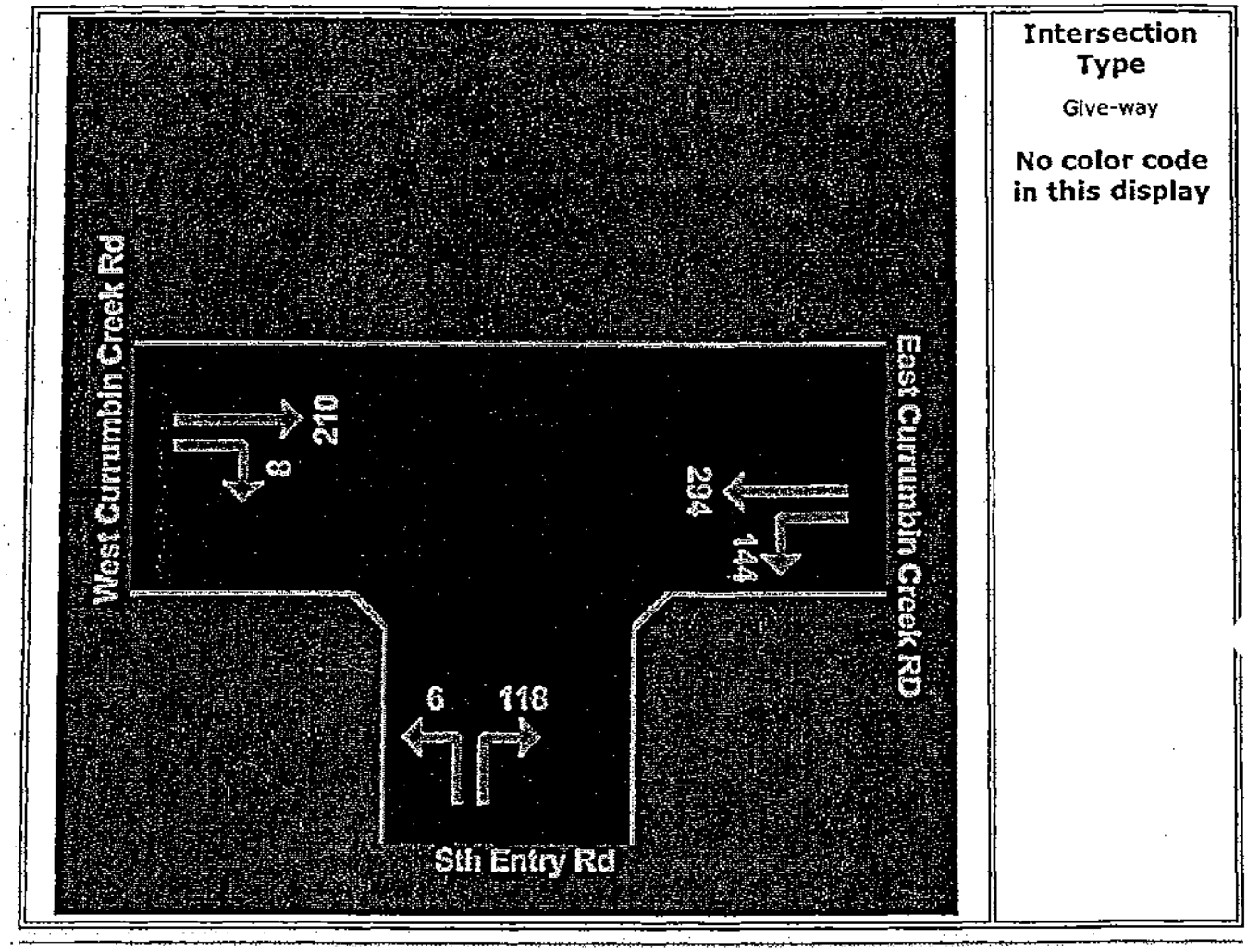
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Input Volumes

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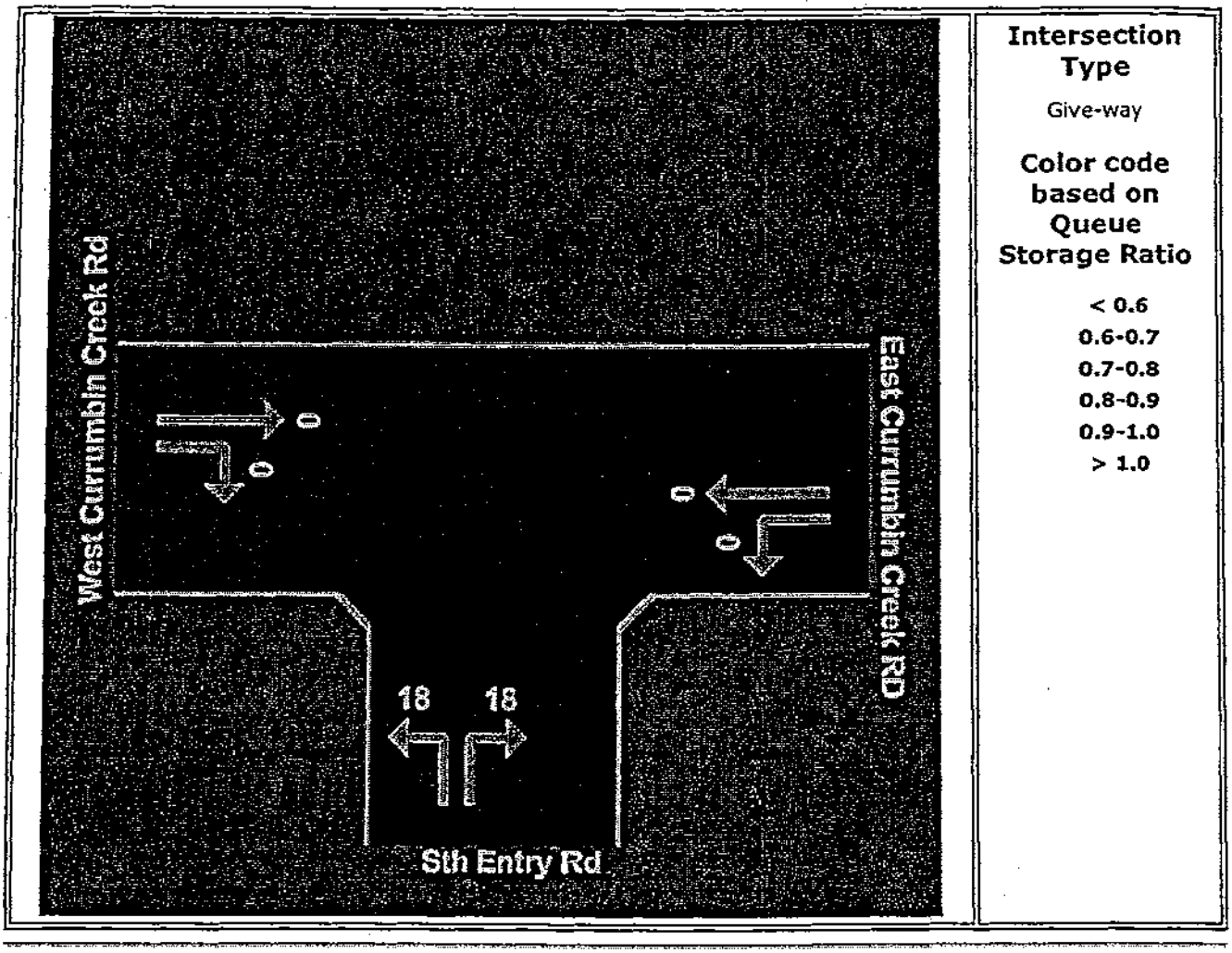
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Queue Distance

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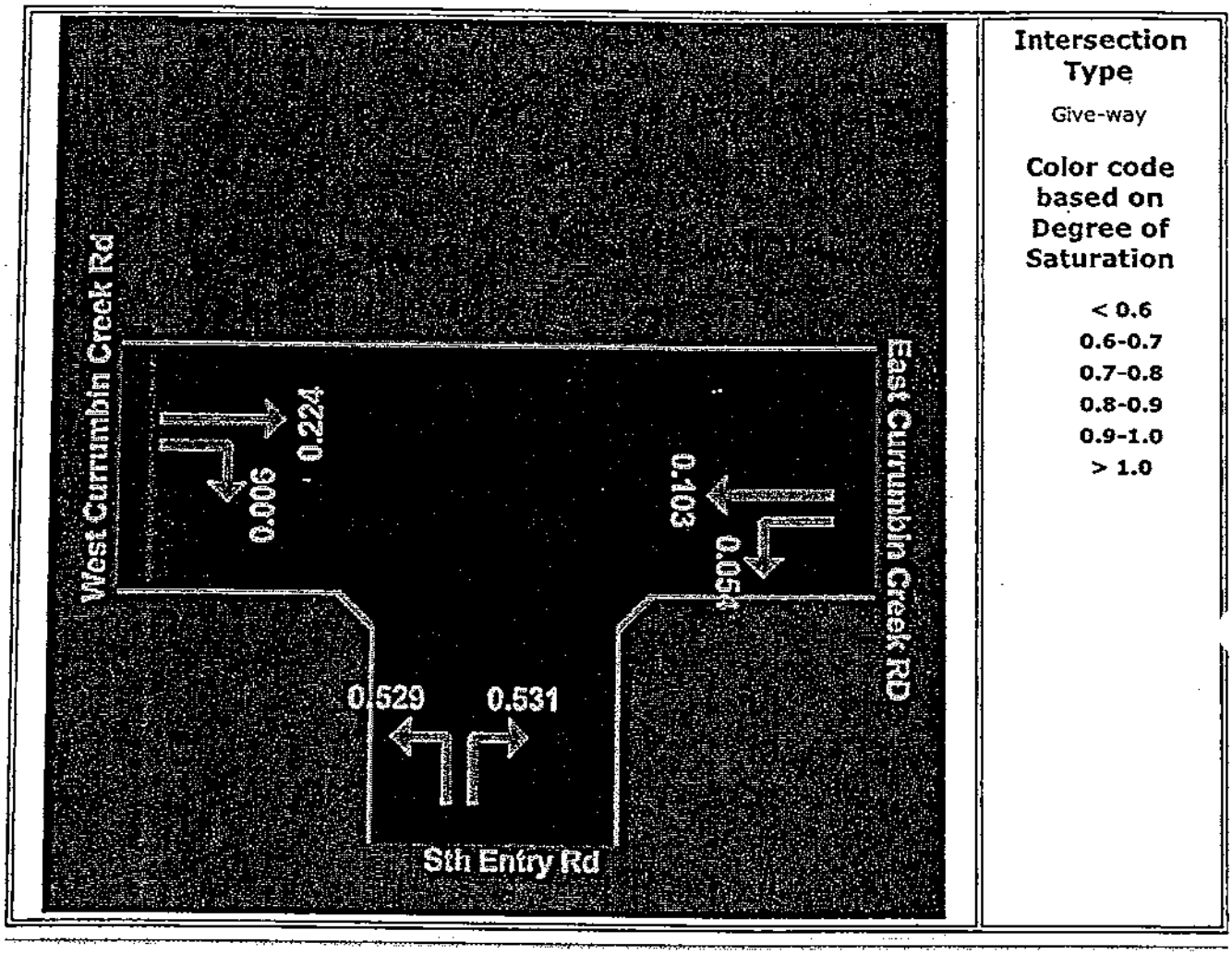
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Degree of Saturation

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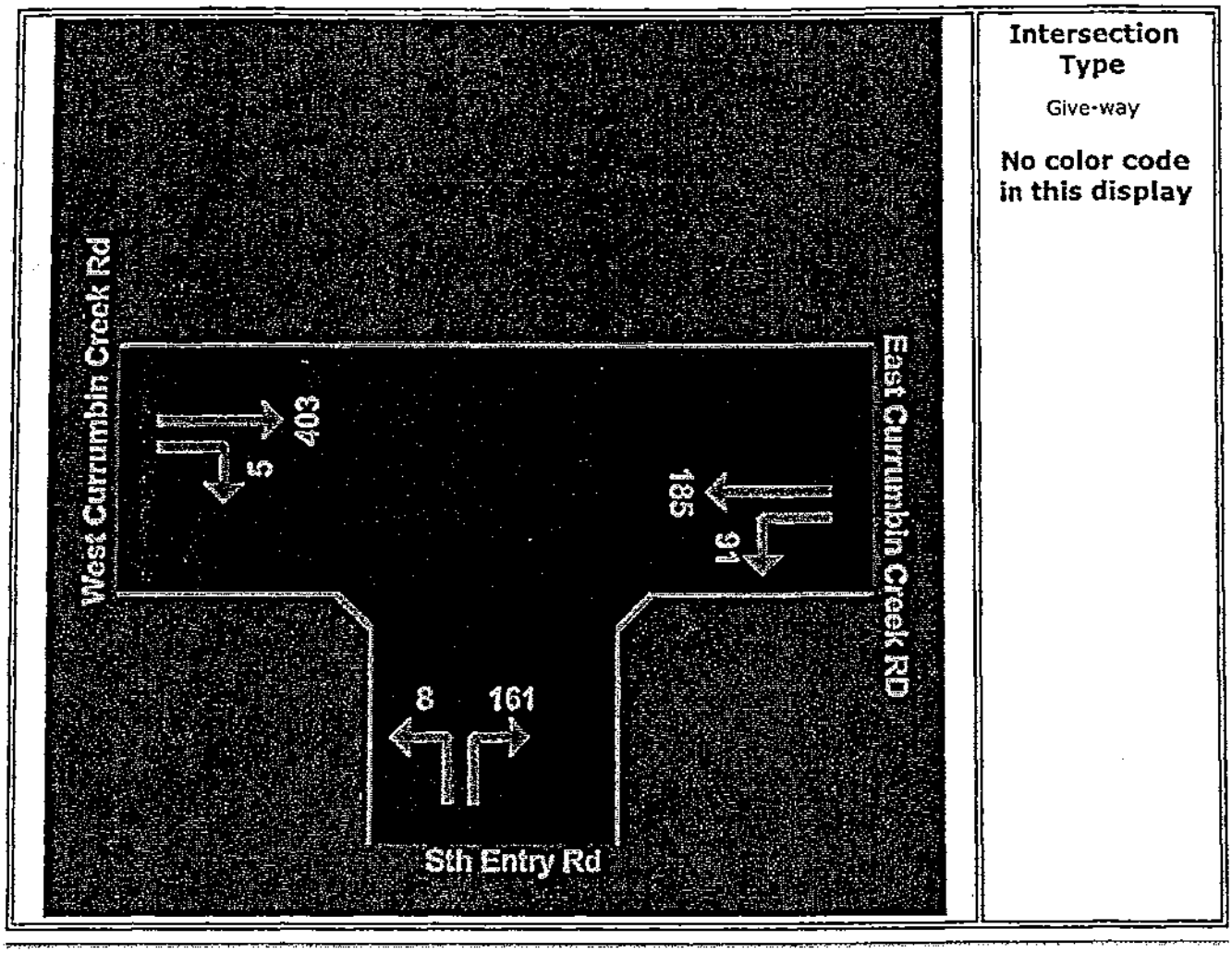
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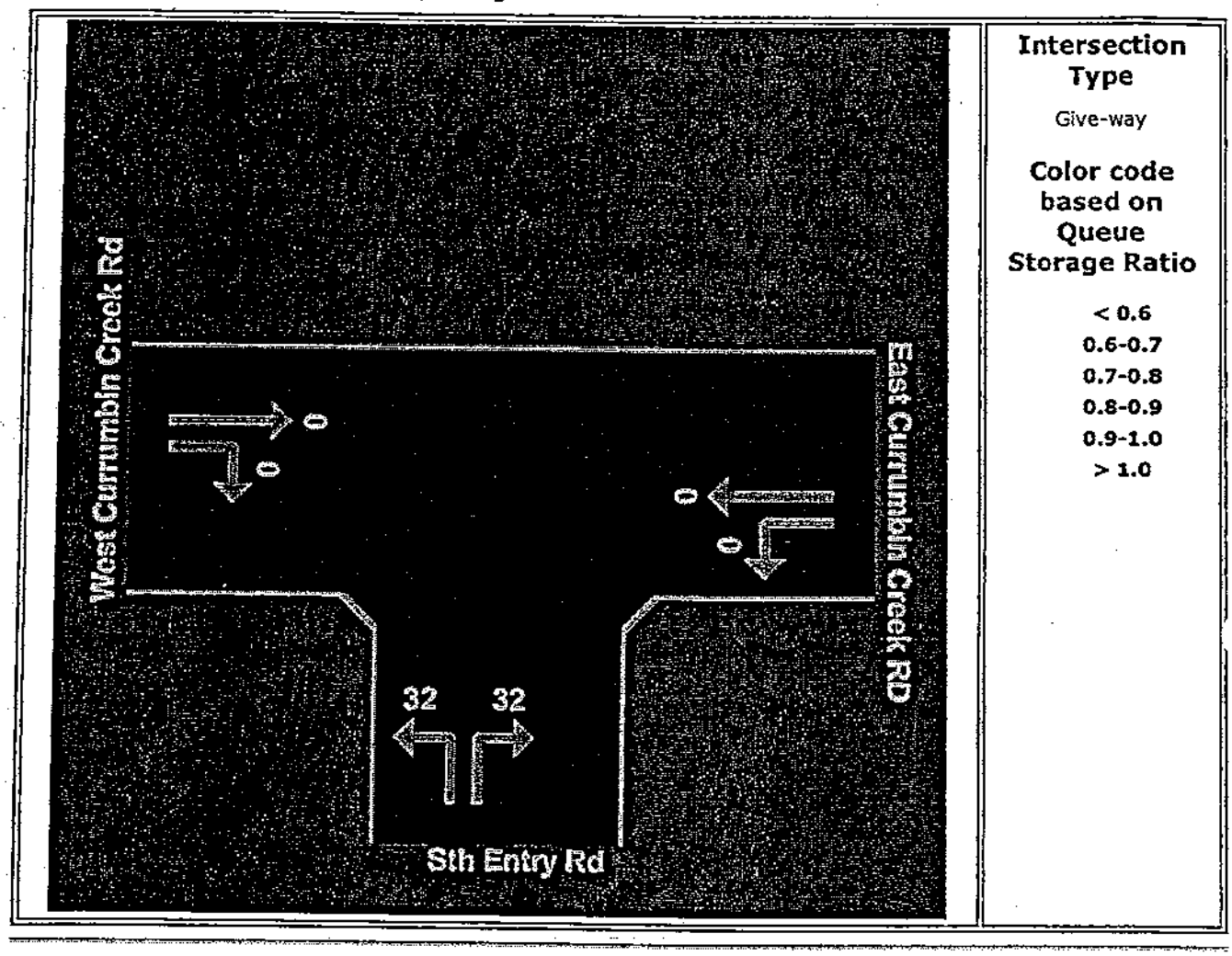
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Queue Distance

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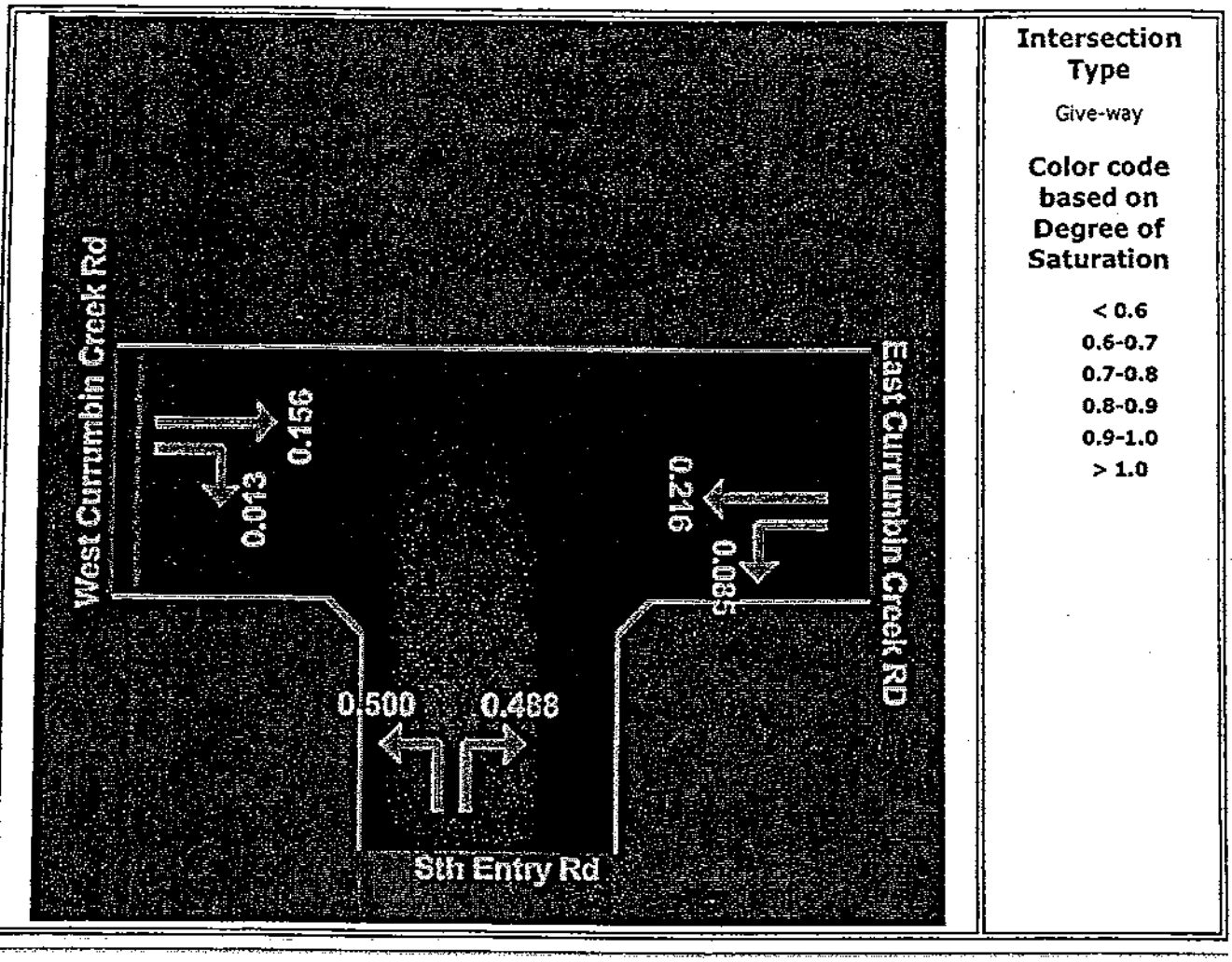
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

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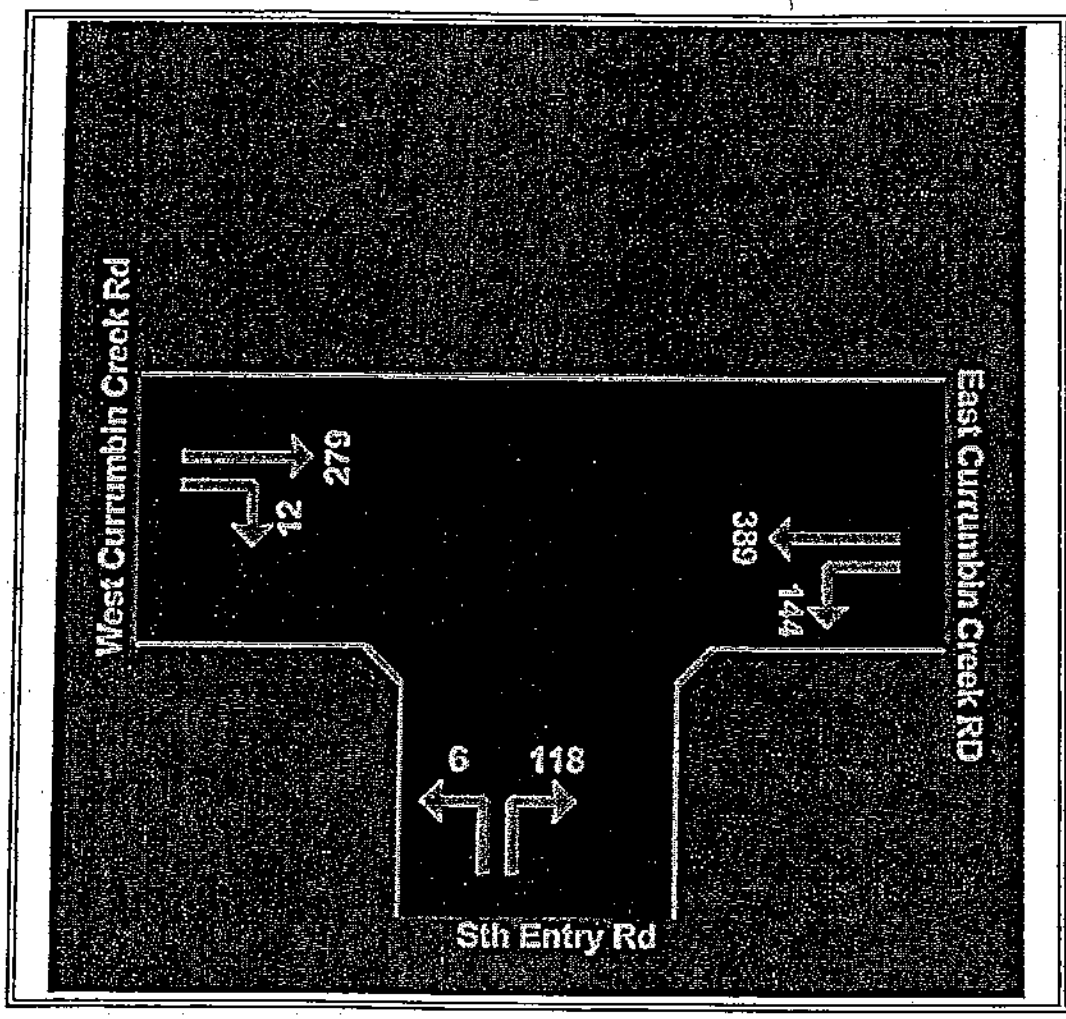
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Intersection Type

Give-way

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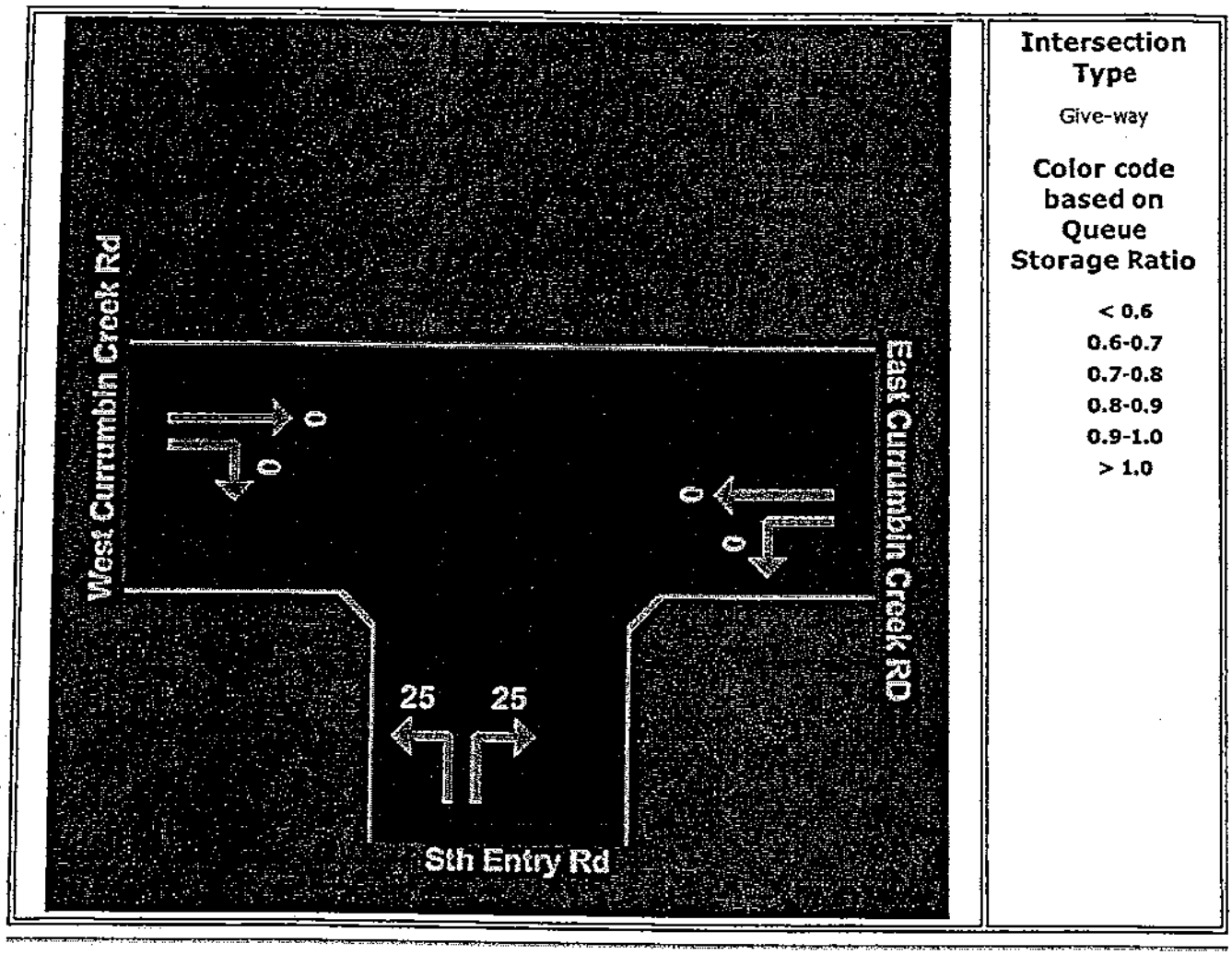
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

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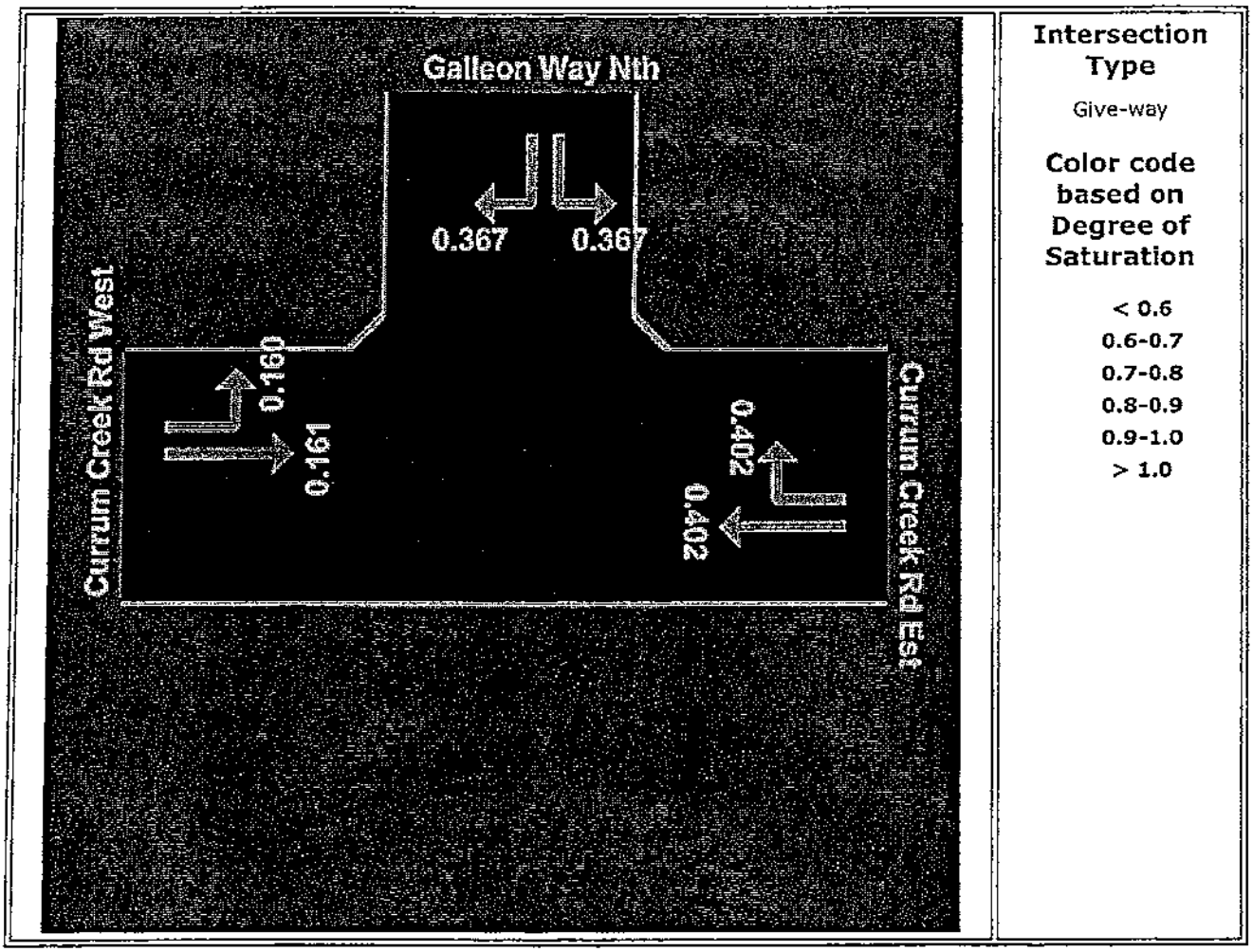
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek Rd/Galleon Way, 2009 AM



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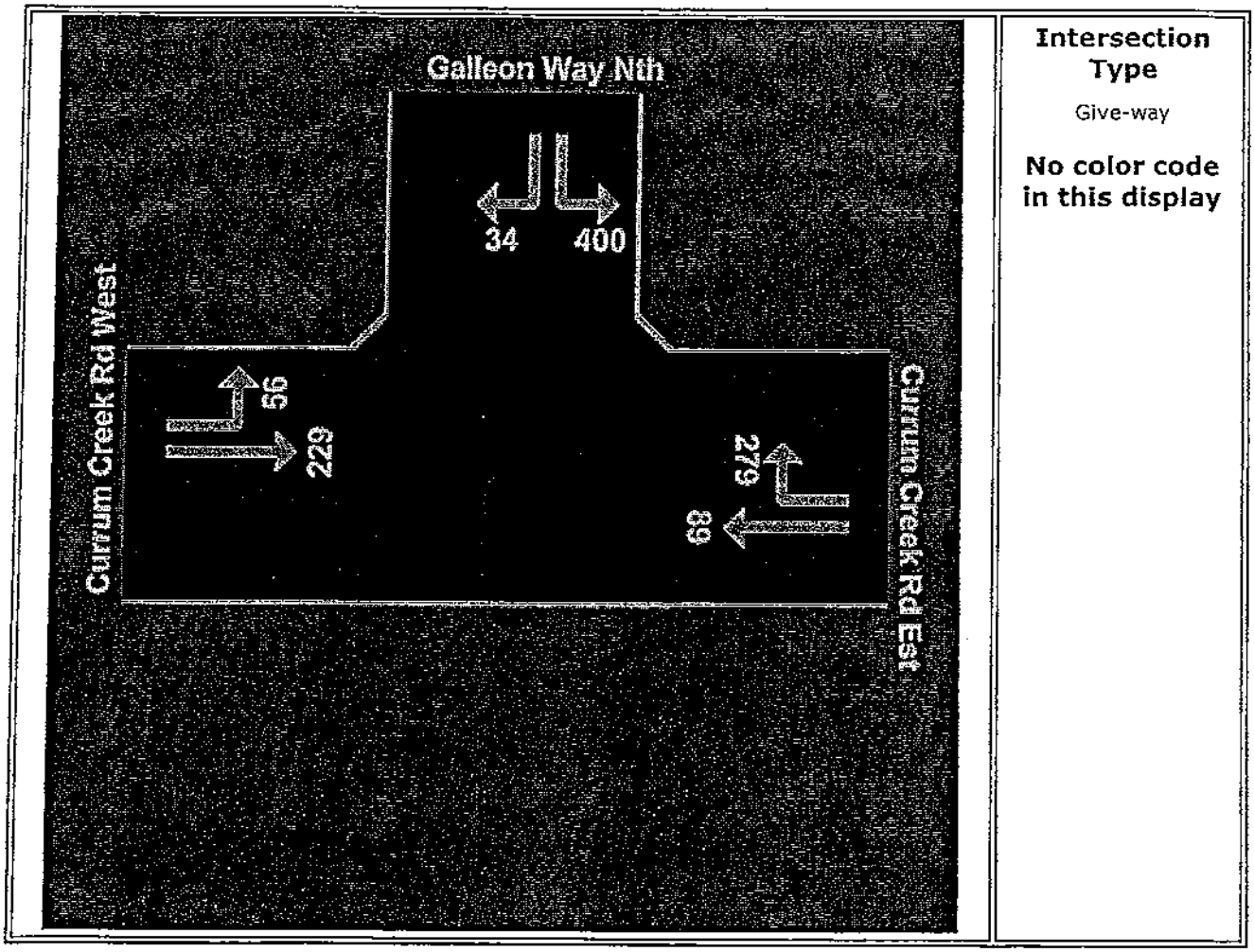
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Input Volumes

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Total flow rates as given by the user (veh/60 min)

Currumbin Creek Rd/Galleon Way, 2009 AM



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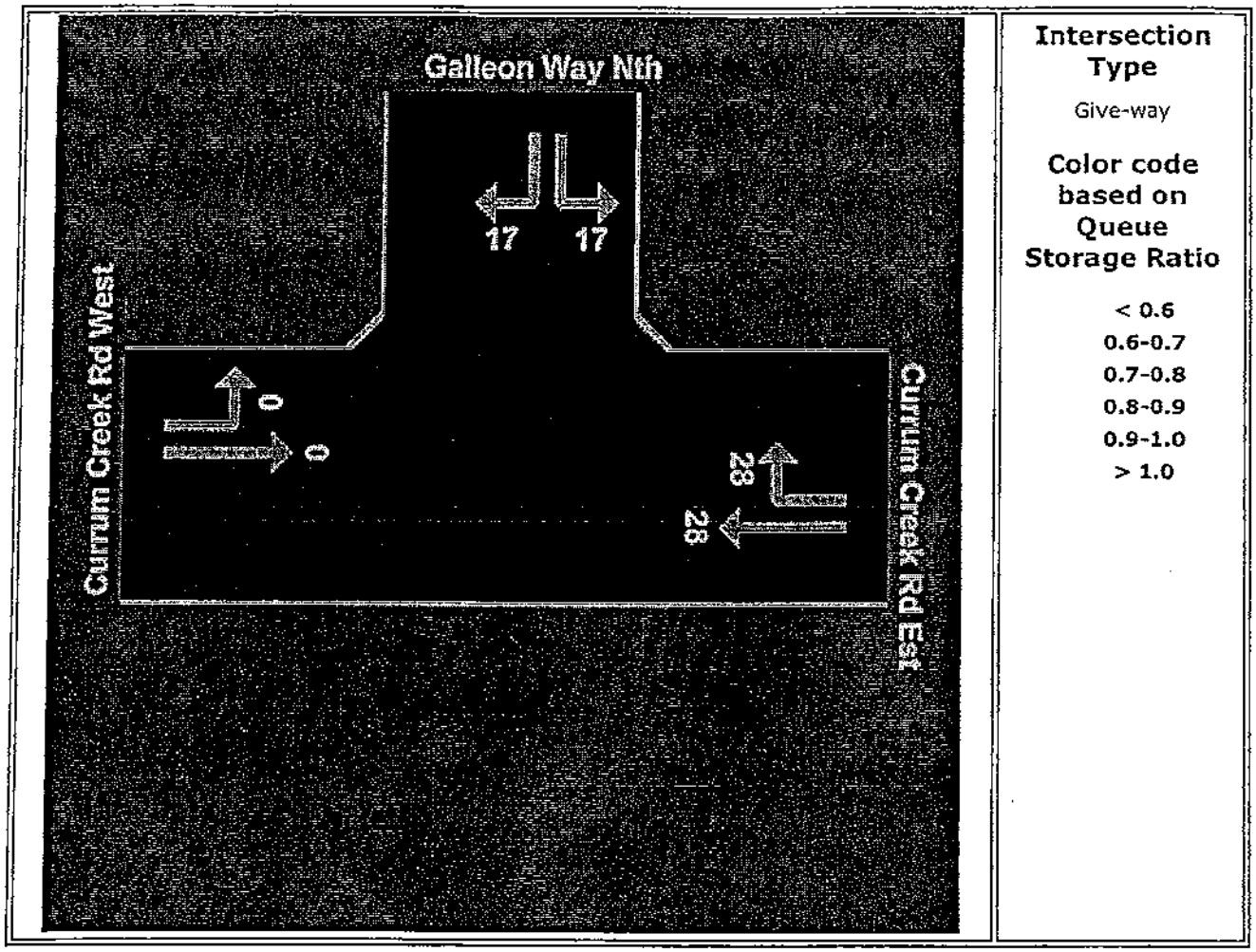
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek Rd/Galleon Way, 2009 AM



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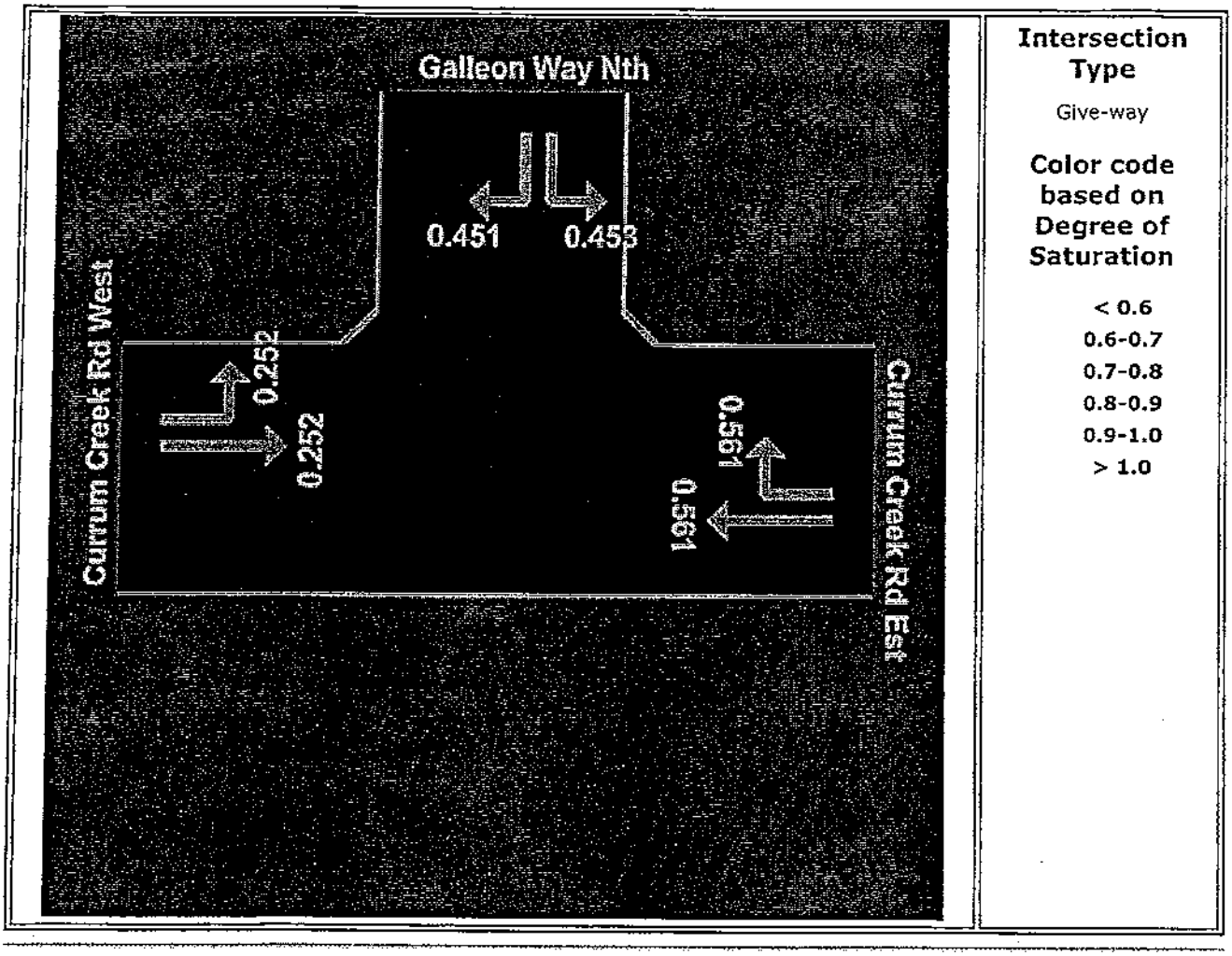
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek Rd/Galleon Way,2009 AM + Development



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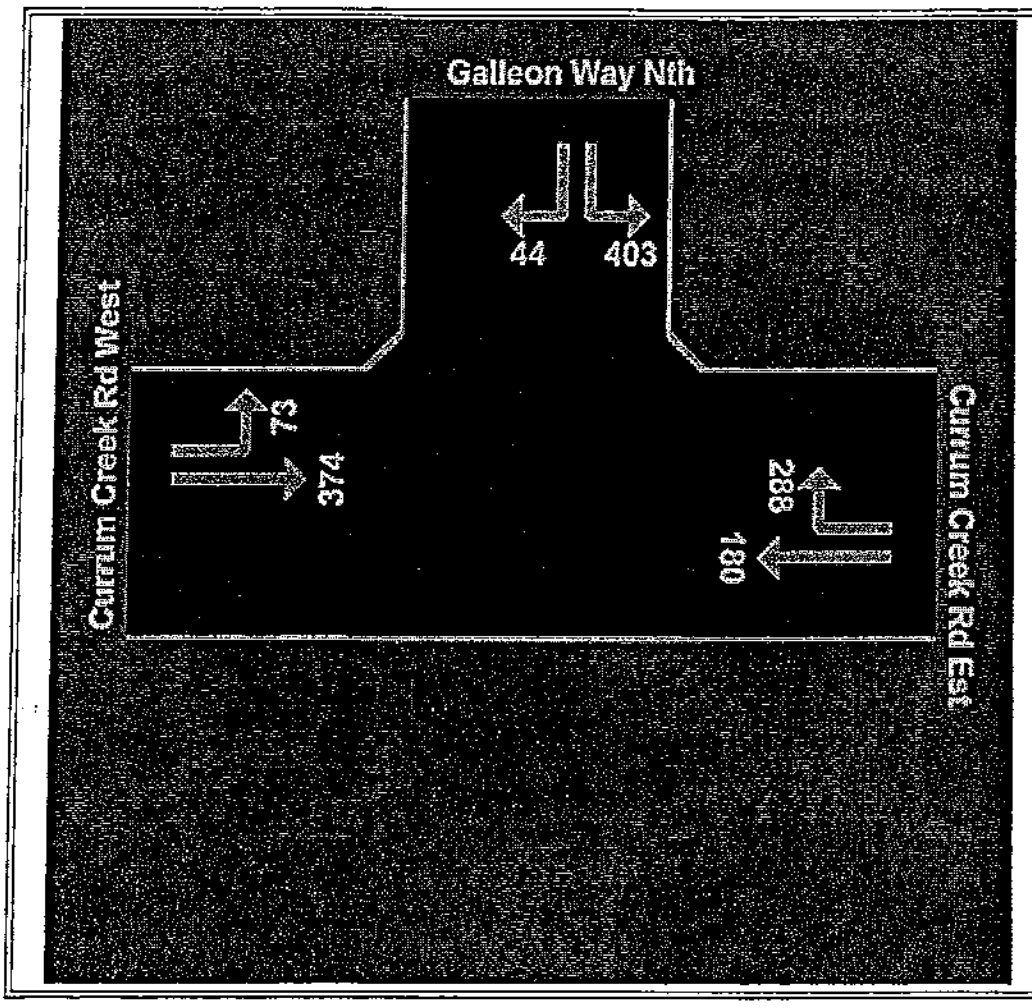
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Input Volumes

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Currumbin Creek Rd/Galleon Way,2009 AM + Development



Intersection Type

Give-way

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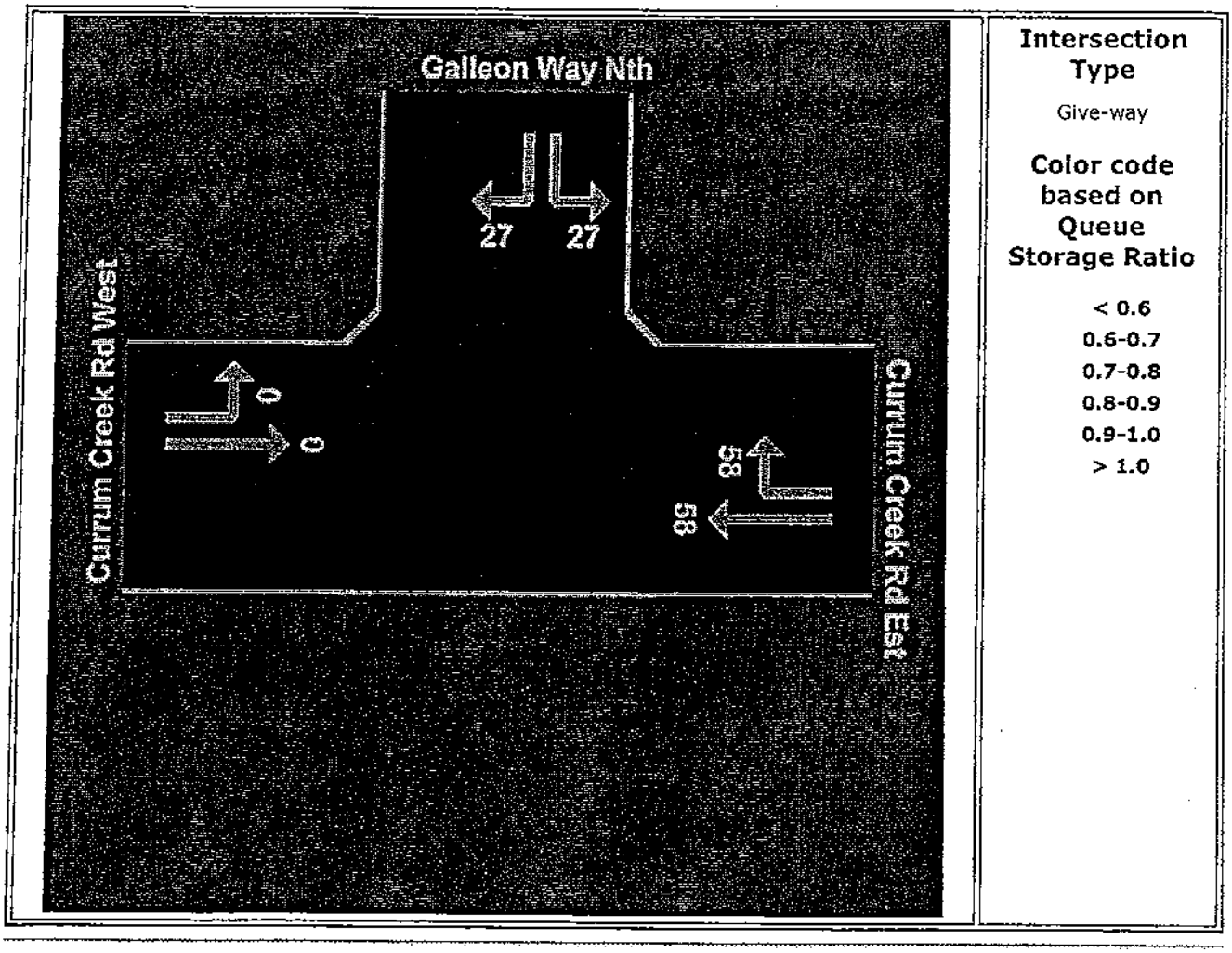
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

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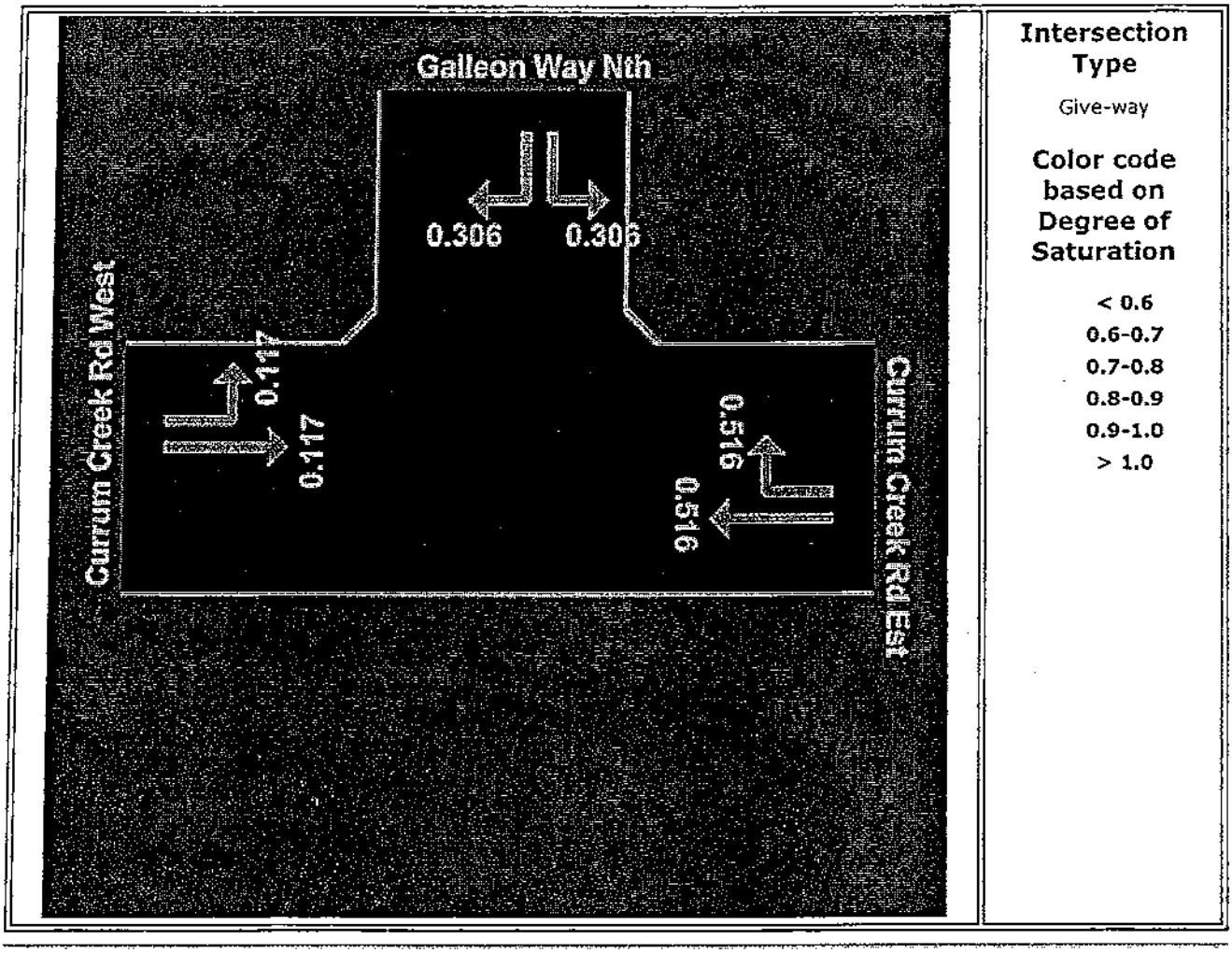
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

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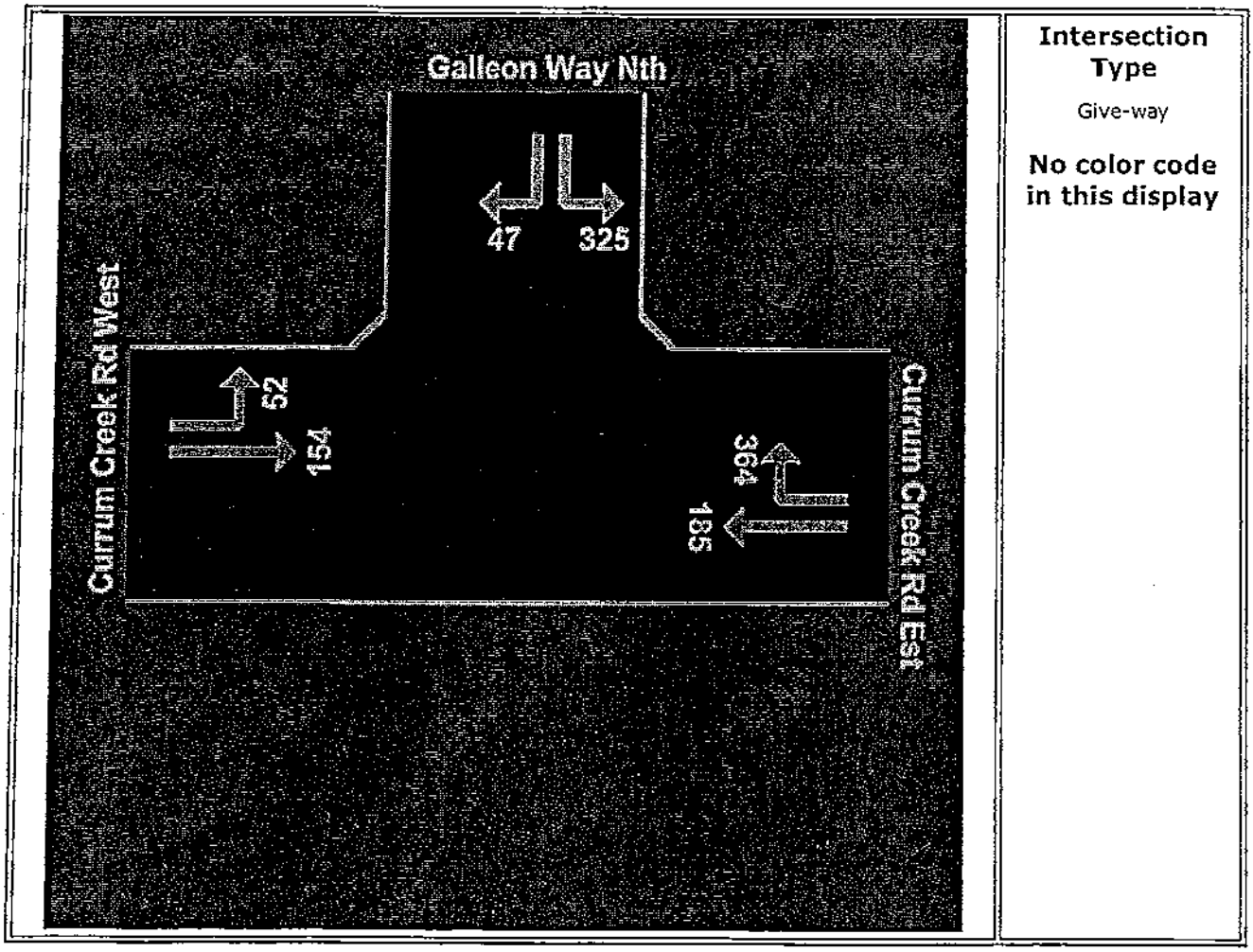
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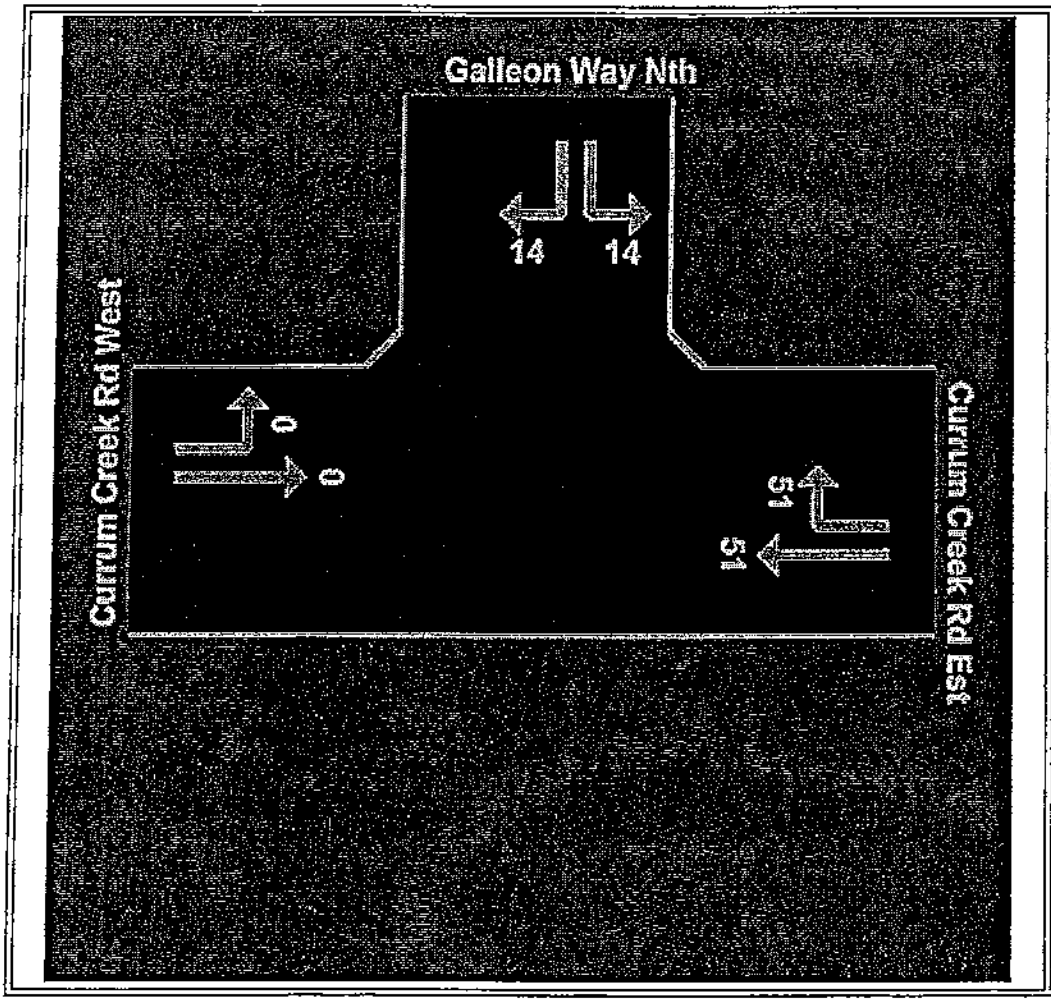
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

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Intersection Type

Give-way

Color code based on Queue Storage Ratio

- < 0.6
- 0.6-0.7
- 0.7-0.8
- 0.8-0.9
- 0.9-1.0
- > 1.0

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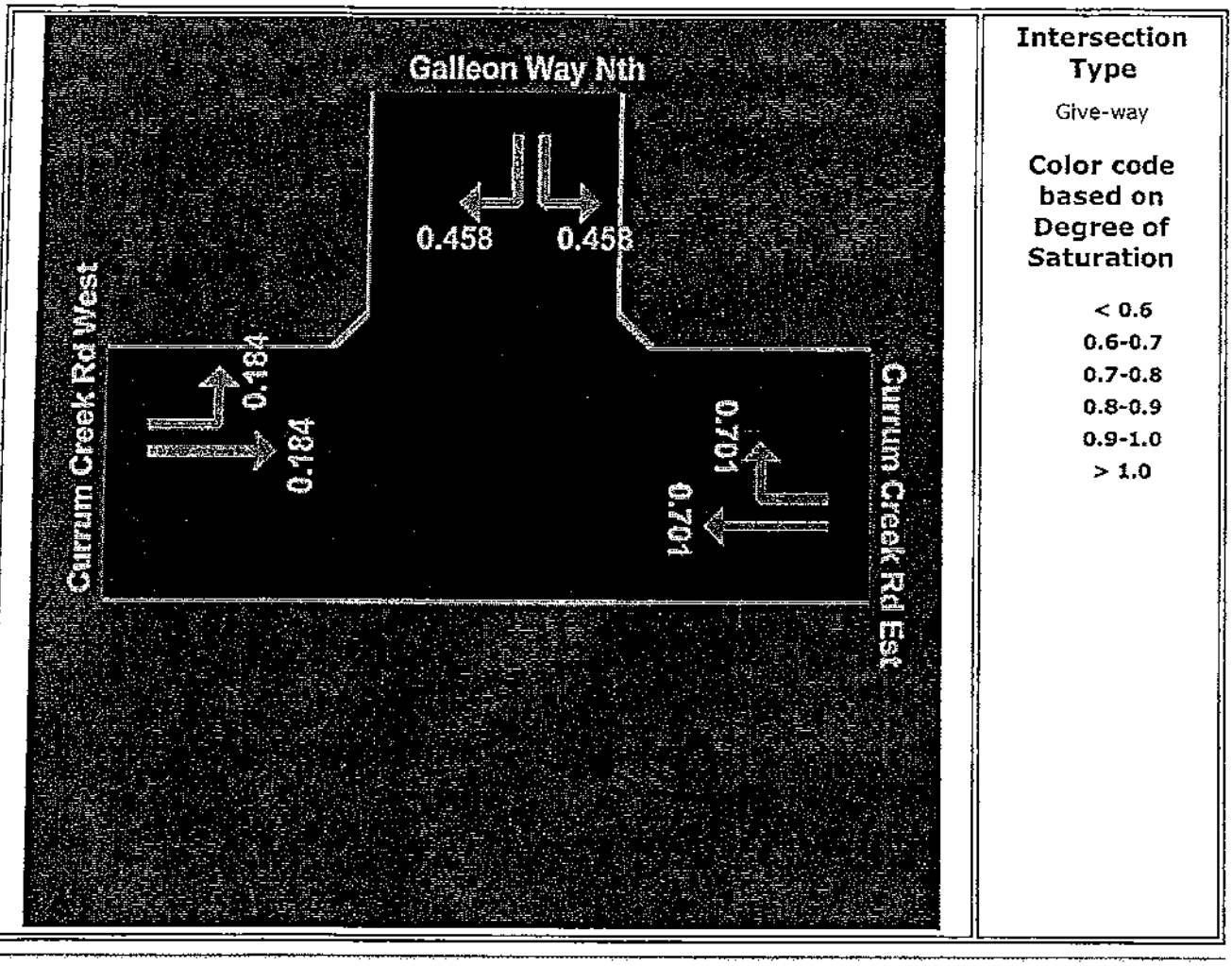
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek Rd/Galleon Way, 2009 PM + Development



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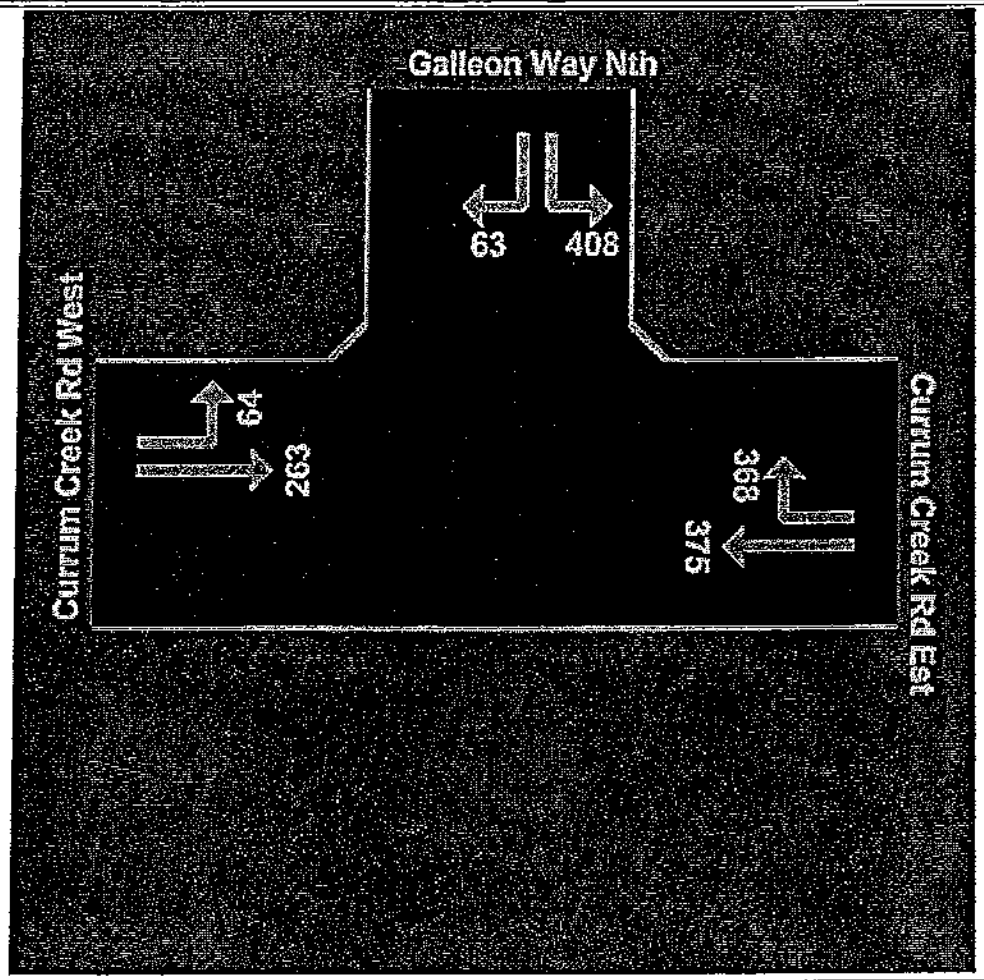
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek Rd/Galleon Way, 2009 PM + Development



Intersection Type

Give-way

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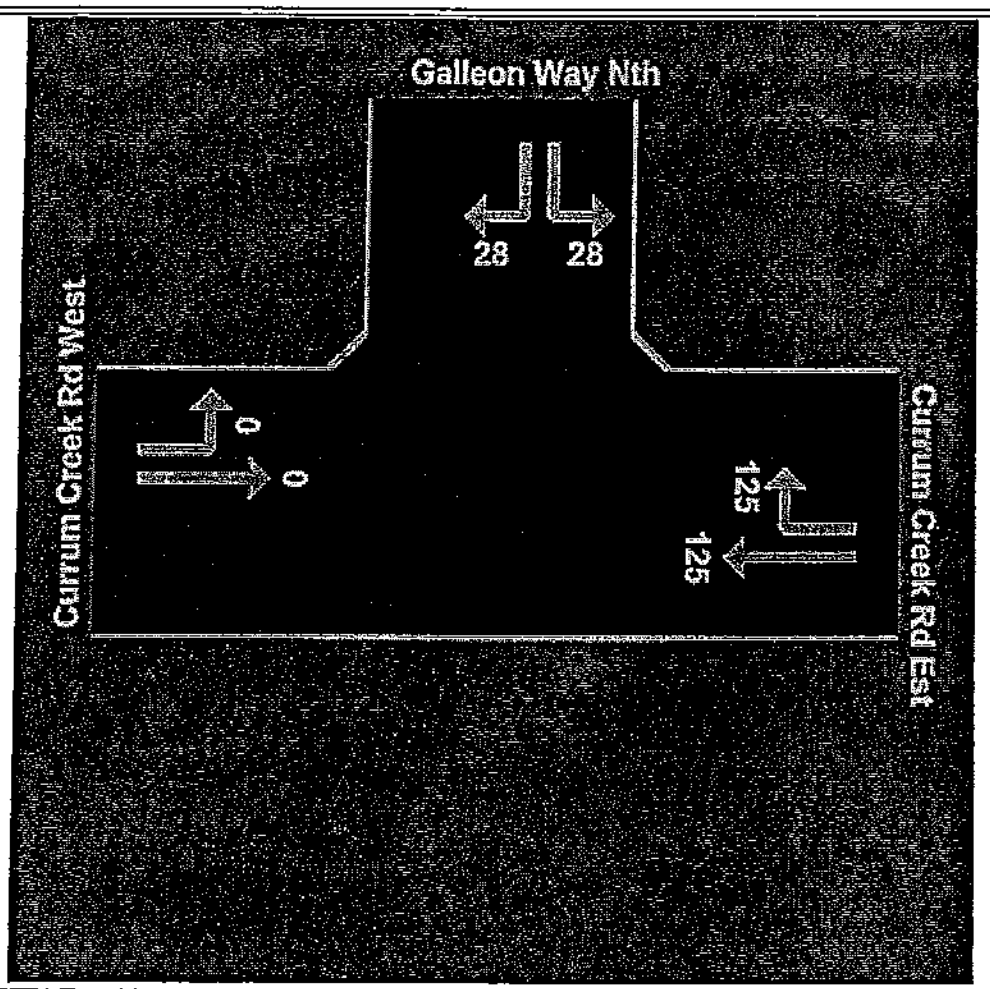
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek Rd/Galleon Way, 2009 PM + Development



Intersection Type

Give-way

Color code based on Queue Storage Ratio

- < 0.6
- 0.6-0.7
- 0.7-0.8
- 0.8-0.9
- 0.9-1.0
- > 1.0

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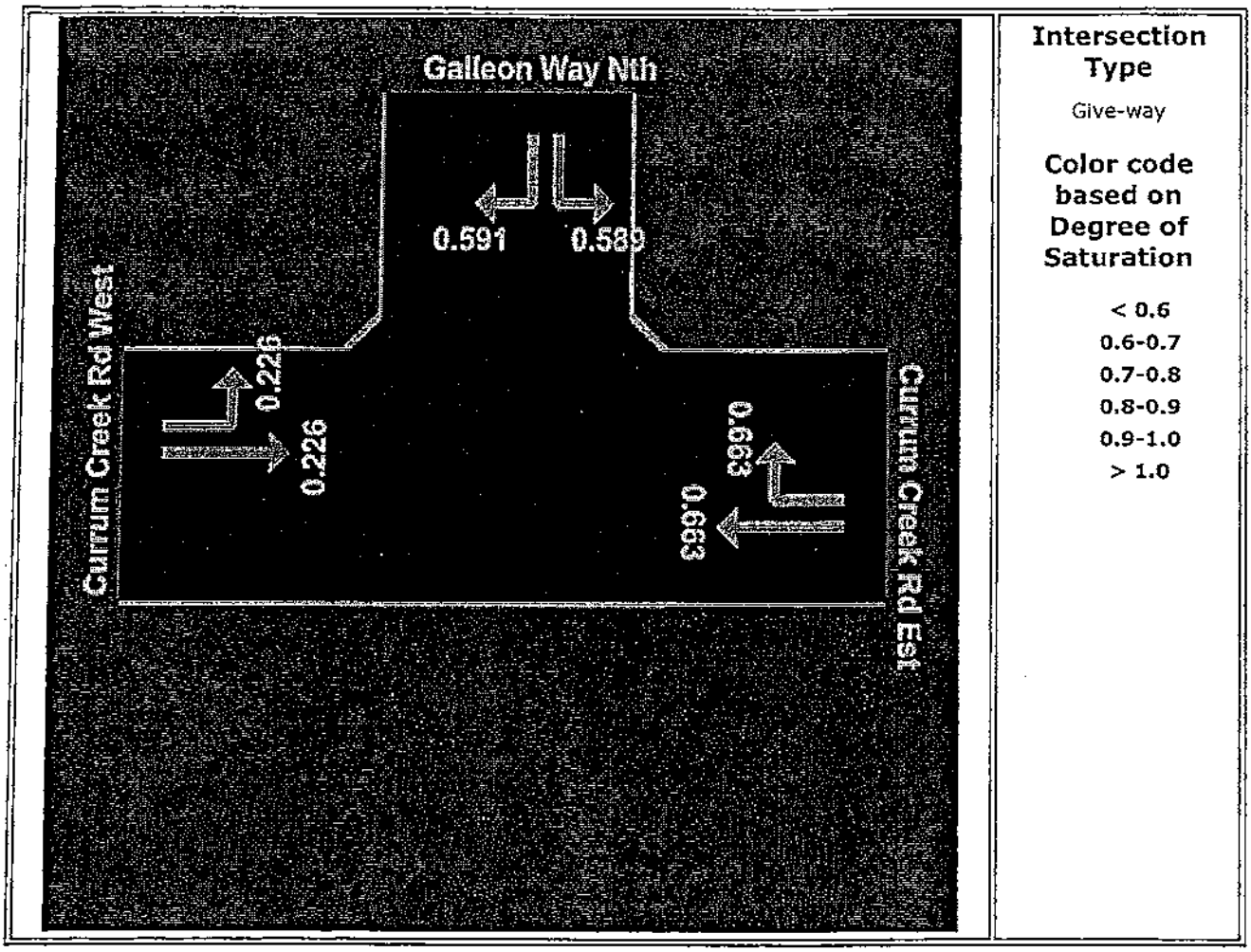
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Demand Volume / Capacity (v/c) ratio

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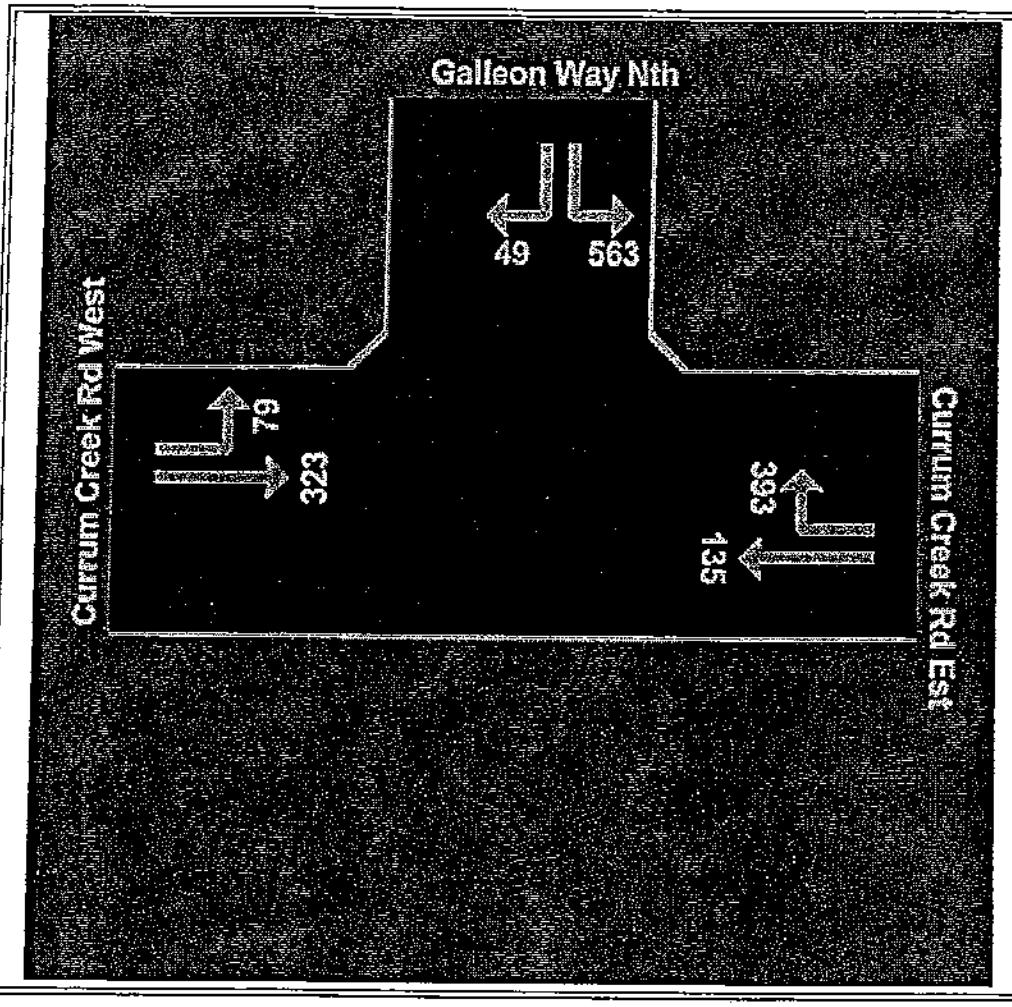
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Input Volumes

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Currumbin Creek Rd/Galleon Way, 2019 AM



Intersection Type

Give-way

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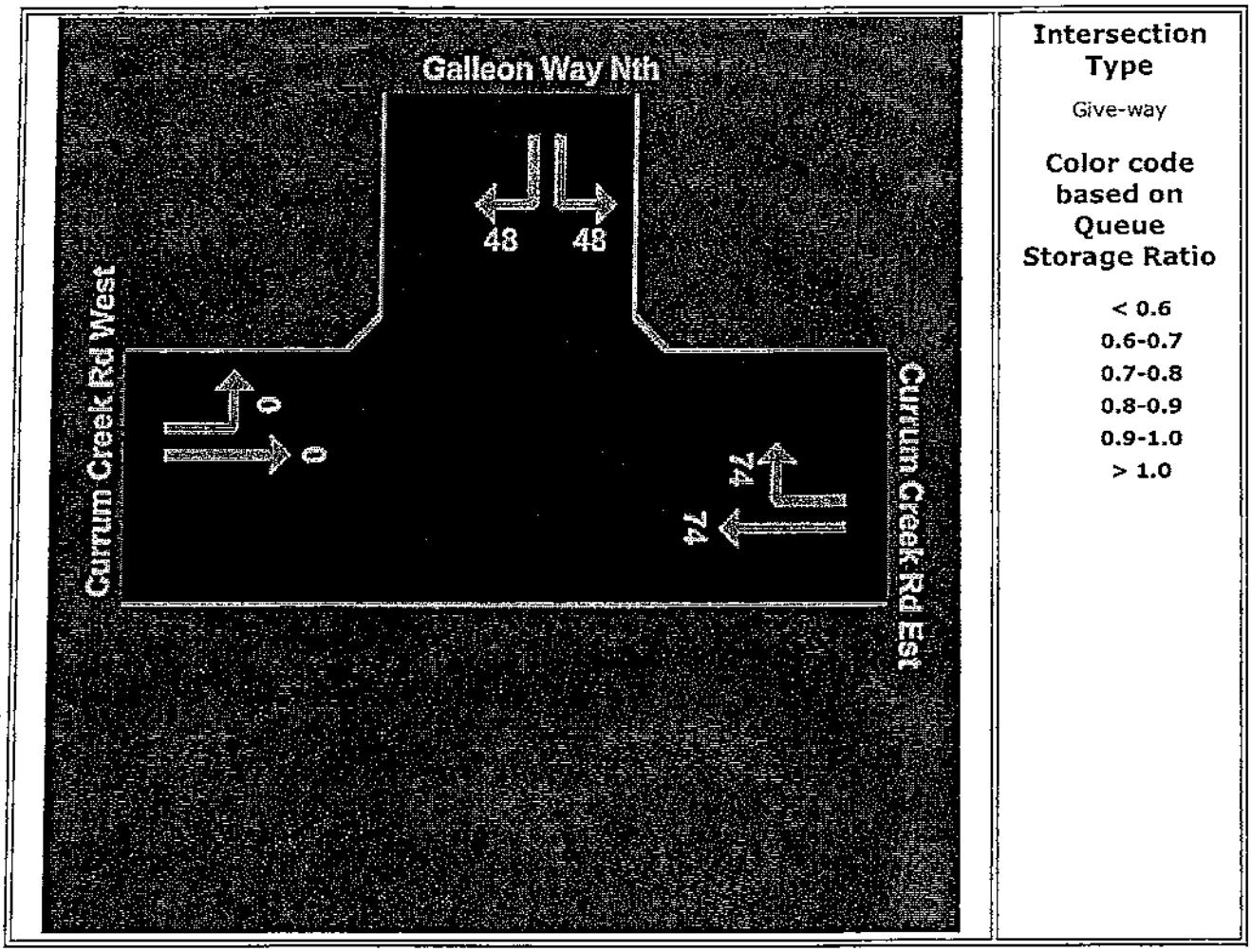
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek Rd/Galleon Way, 2019 AM



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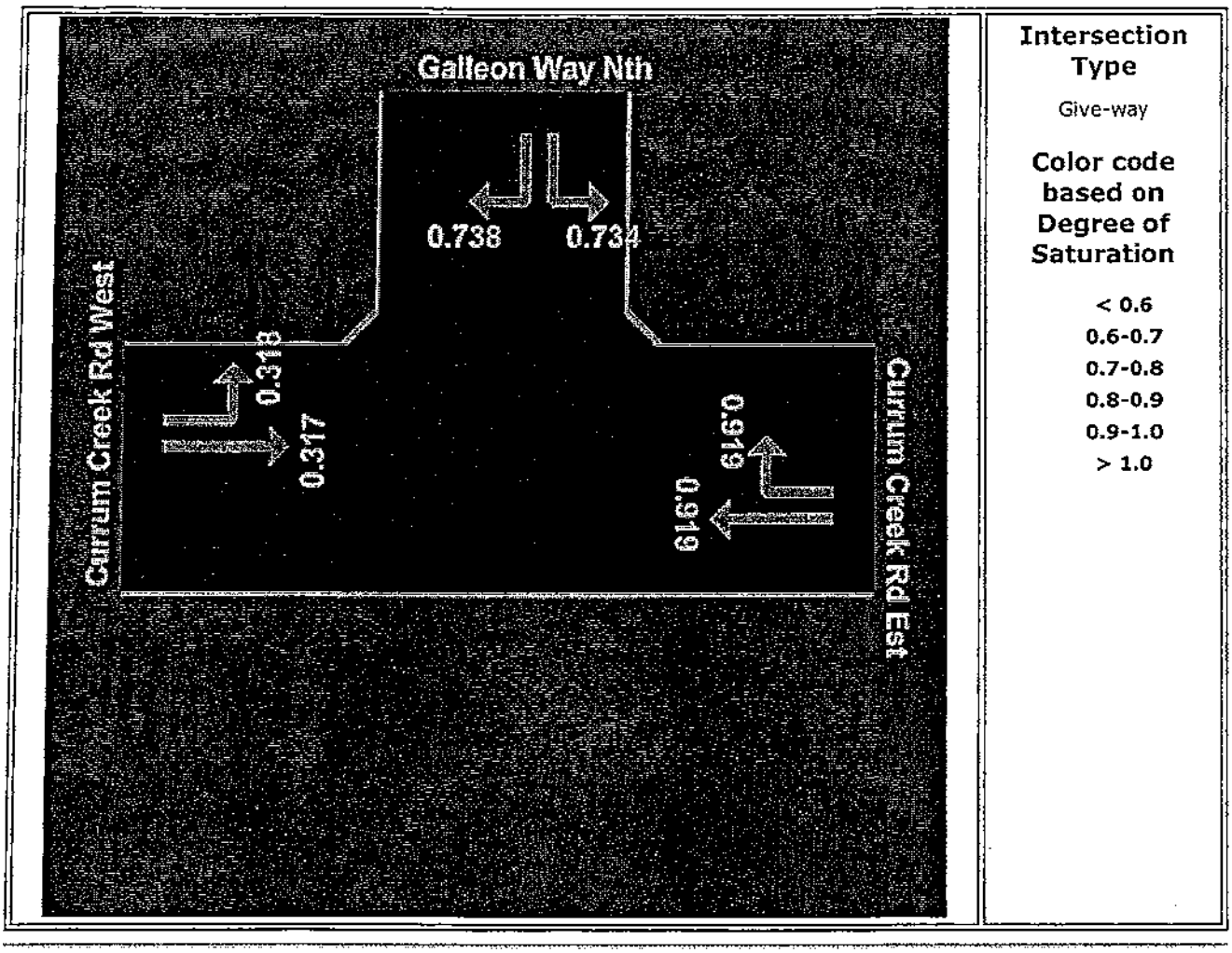
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek Rd/Galleon Way, 2019 AM + Development



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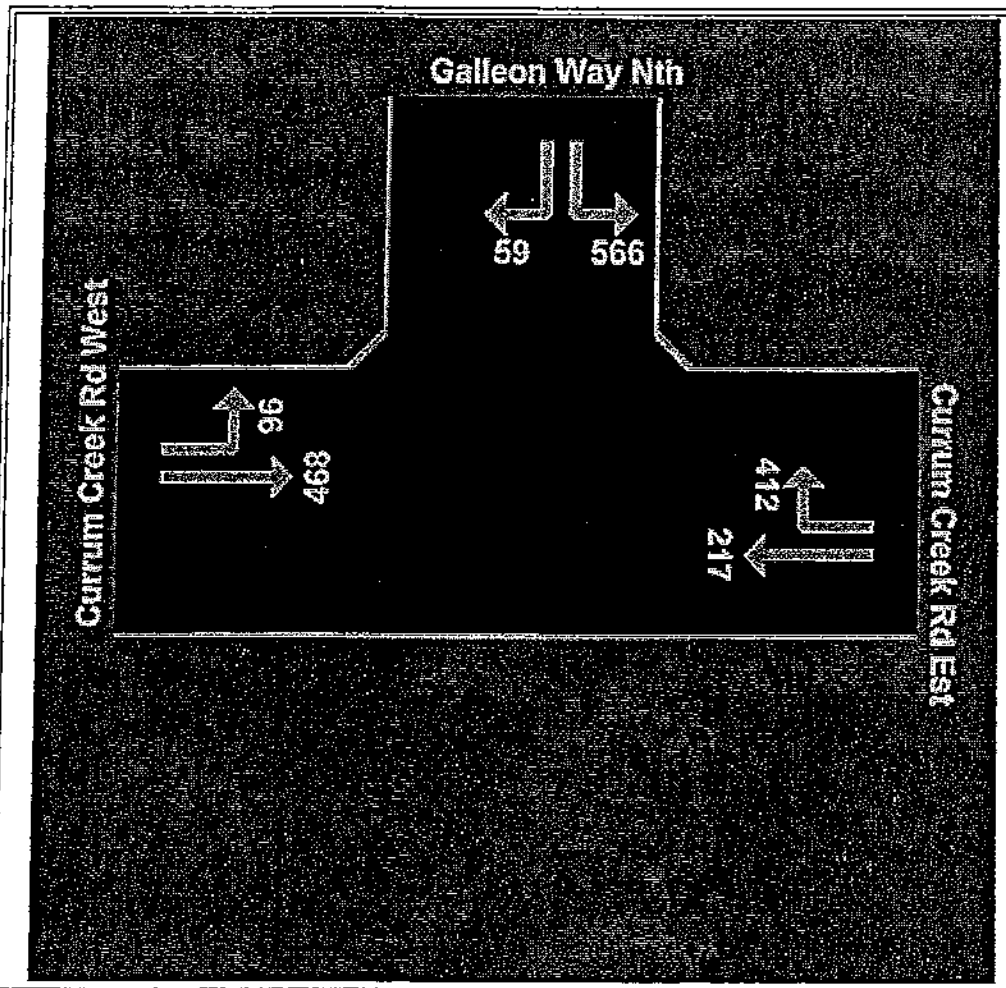
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek Rd/Galleon Way, 2019 AM + Development



Intersection Type

Give-way

No color code in this display

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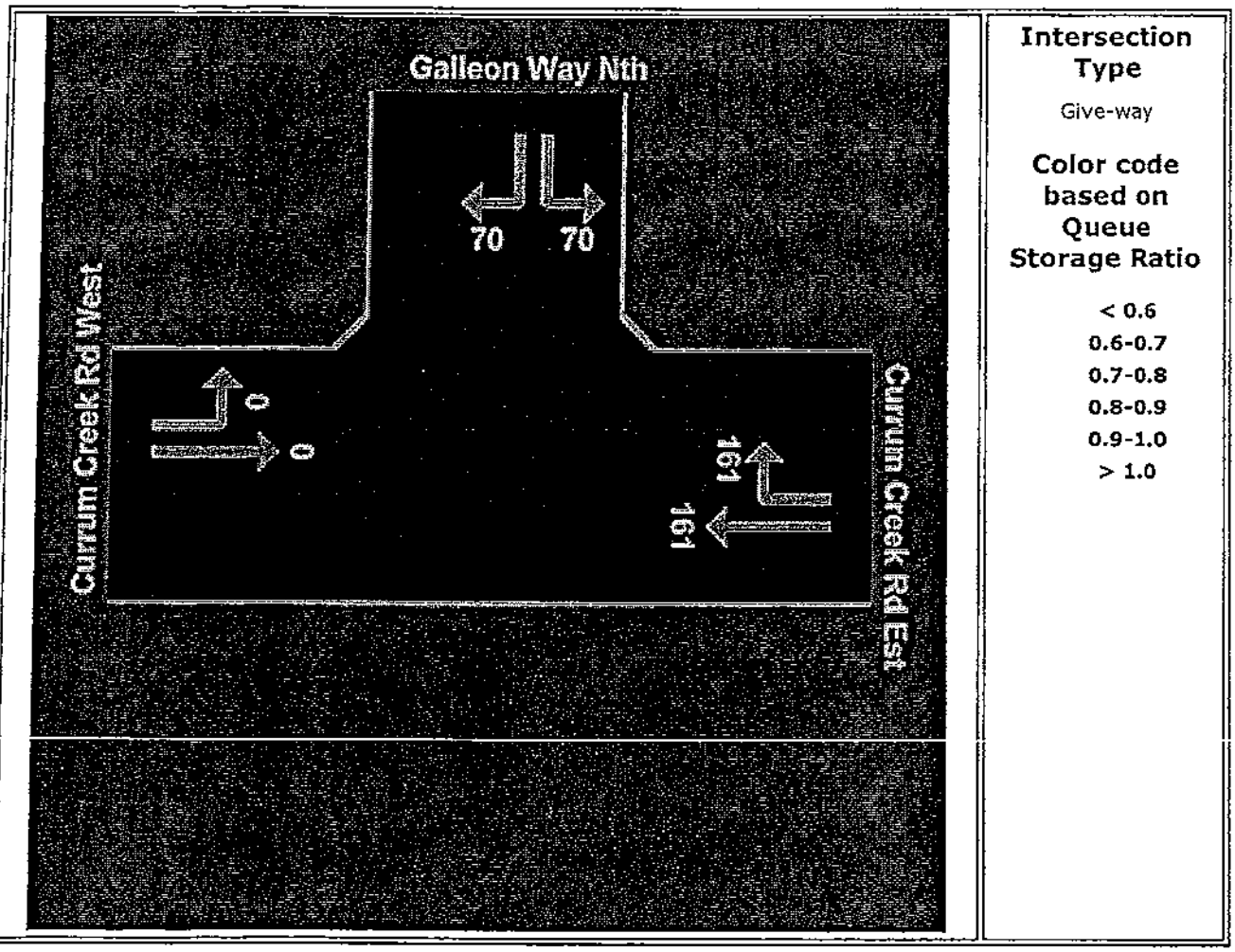
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek Rd/Galleon Way, 2019 AM + Development



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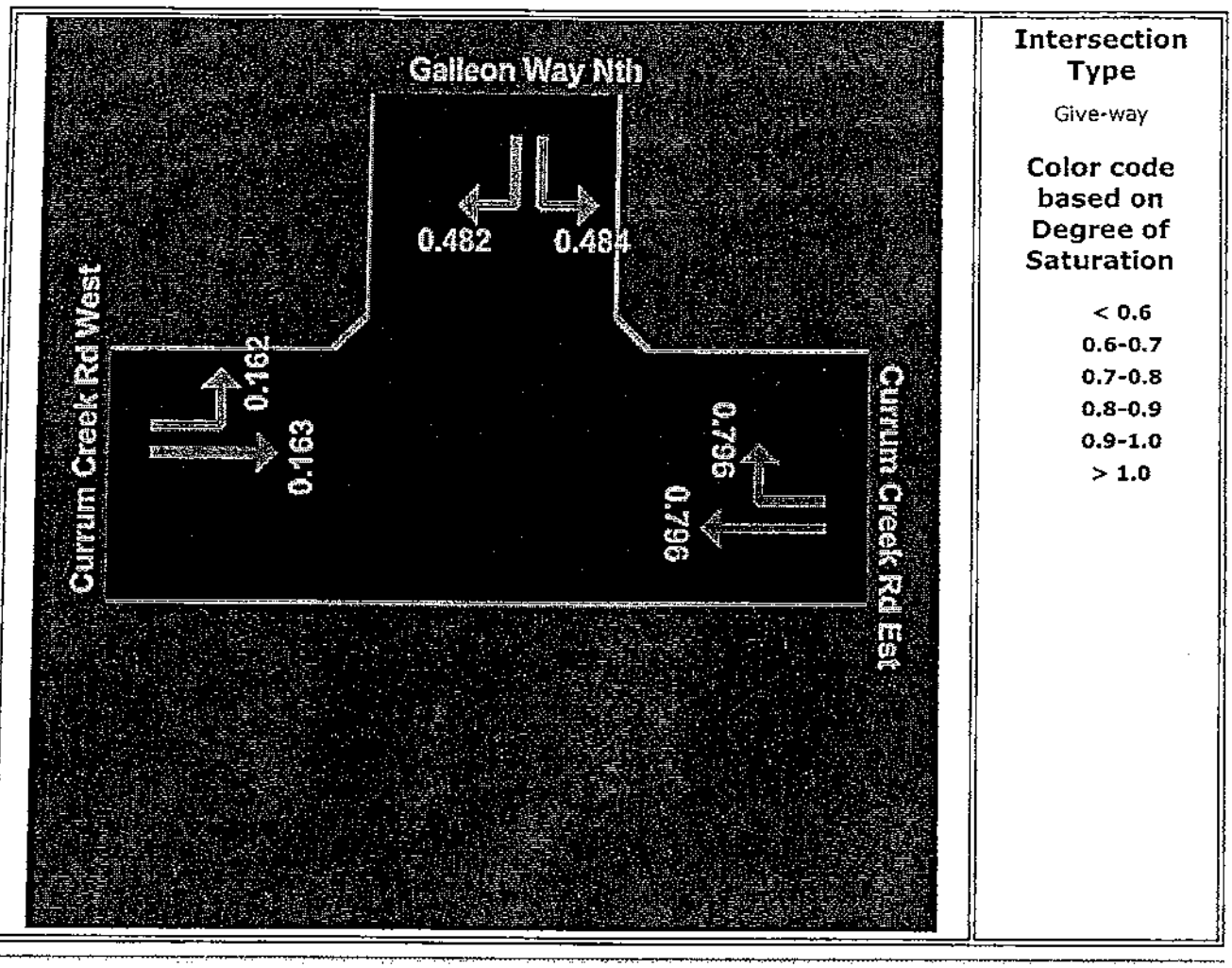
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Degree of Saturation

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aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Currumbin Creek Rd/Galleon Way, 2019 PM



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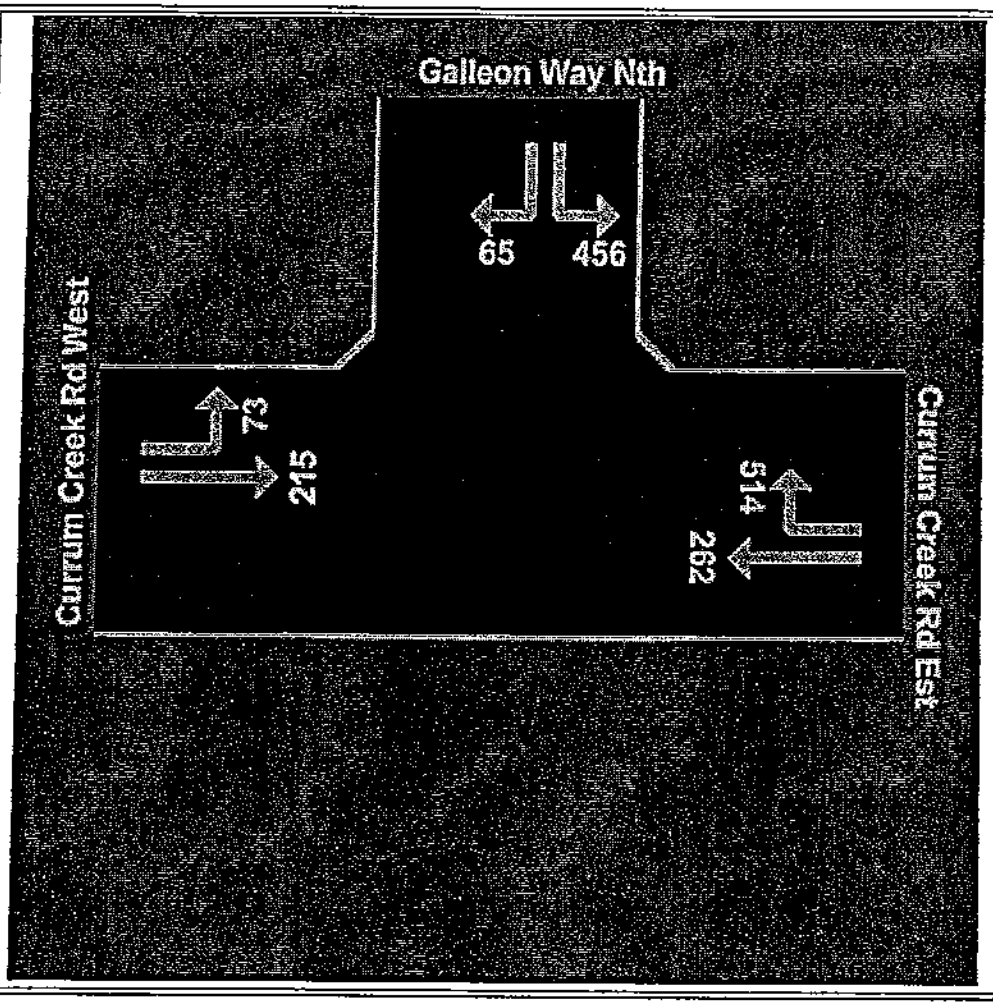
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek Rd/Galleon Way, 2019 PM



Intersection Type

Give-way

No color code in this display

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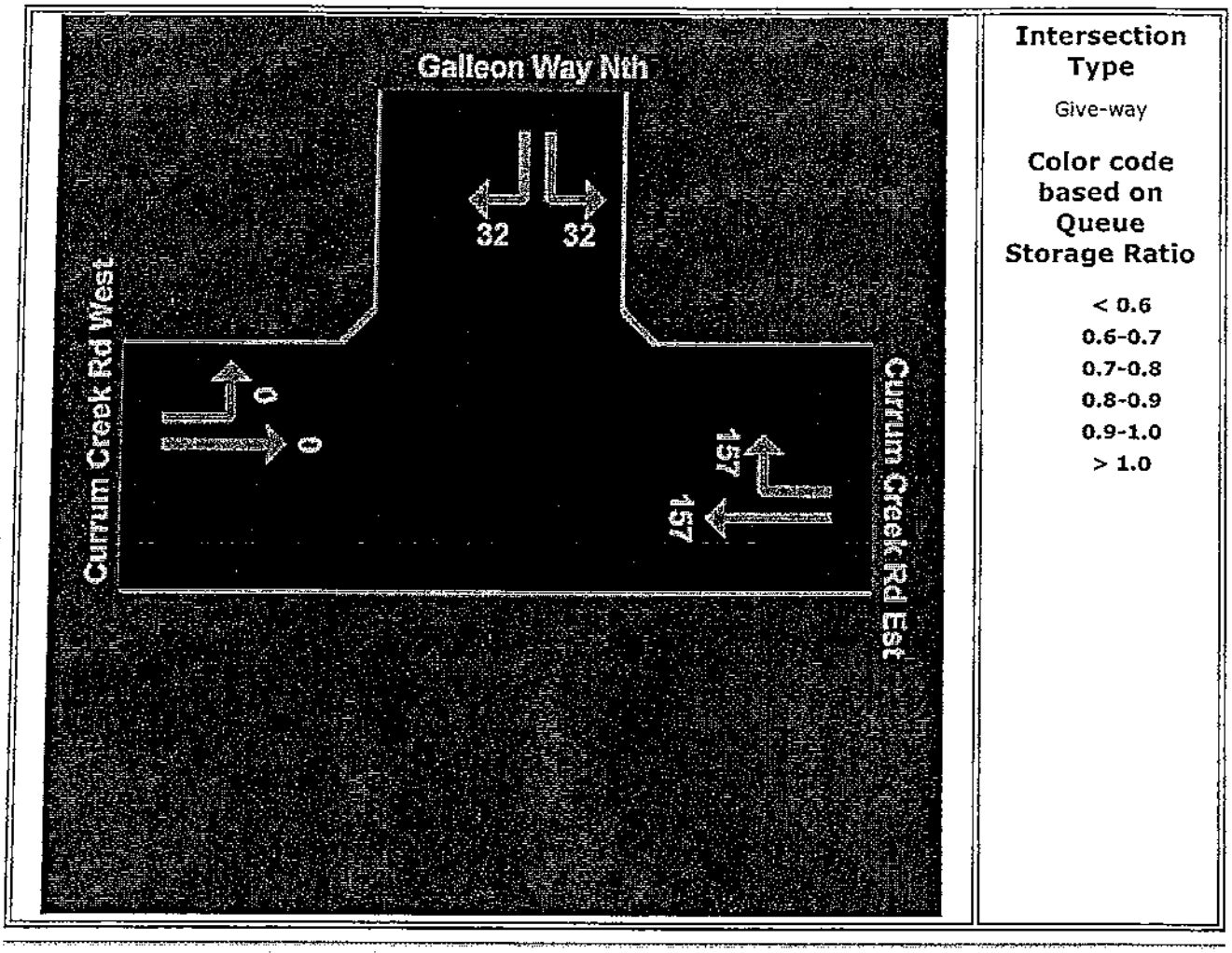
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek Rd/Galleon Way, 2019 PM



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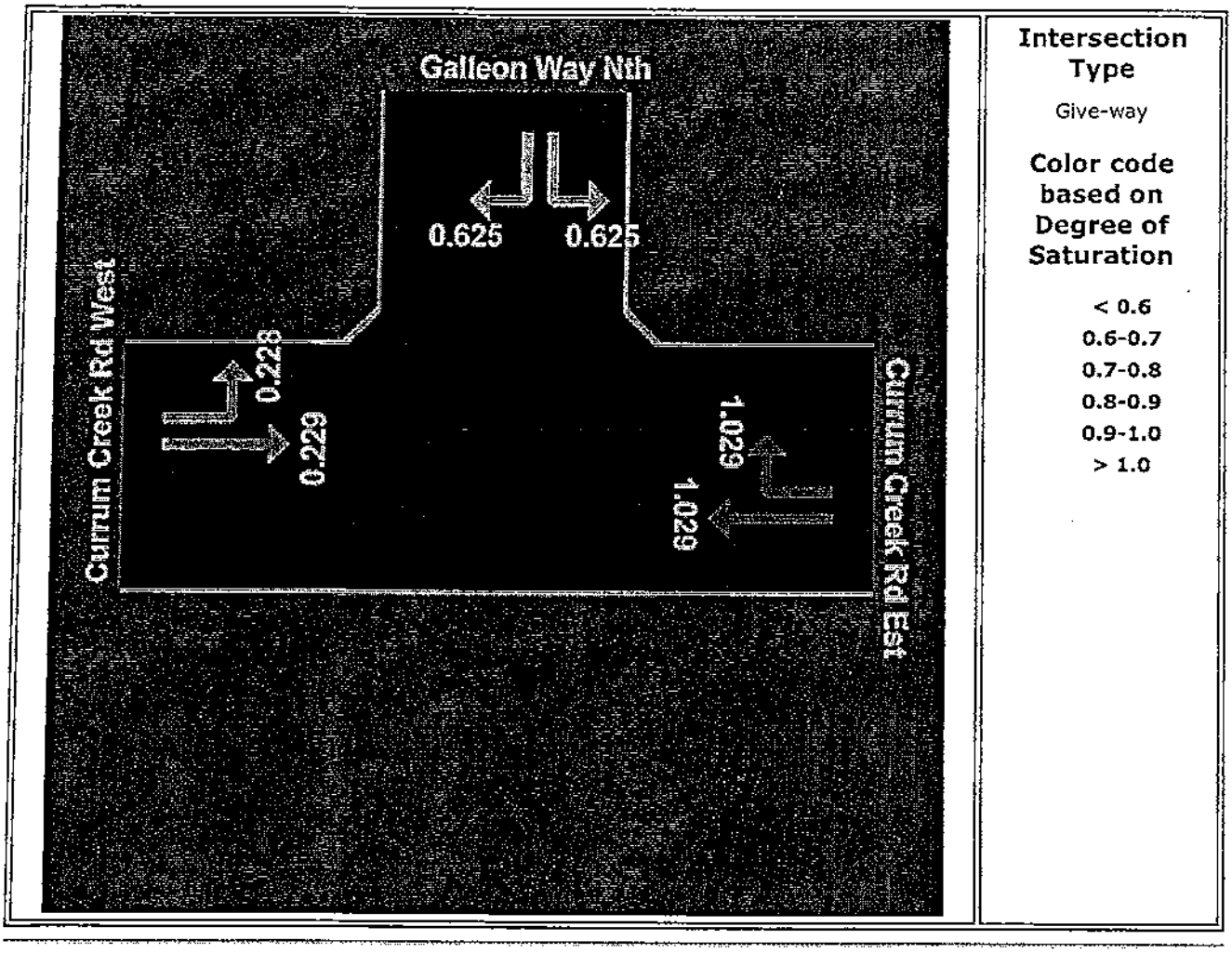
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

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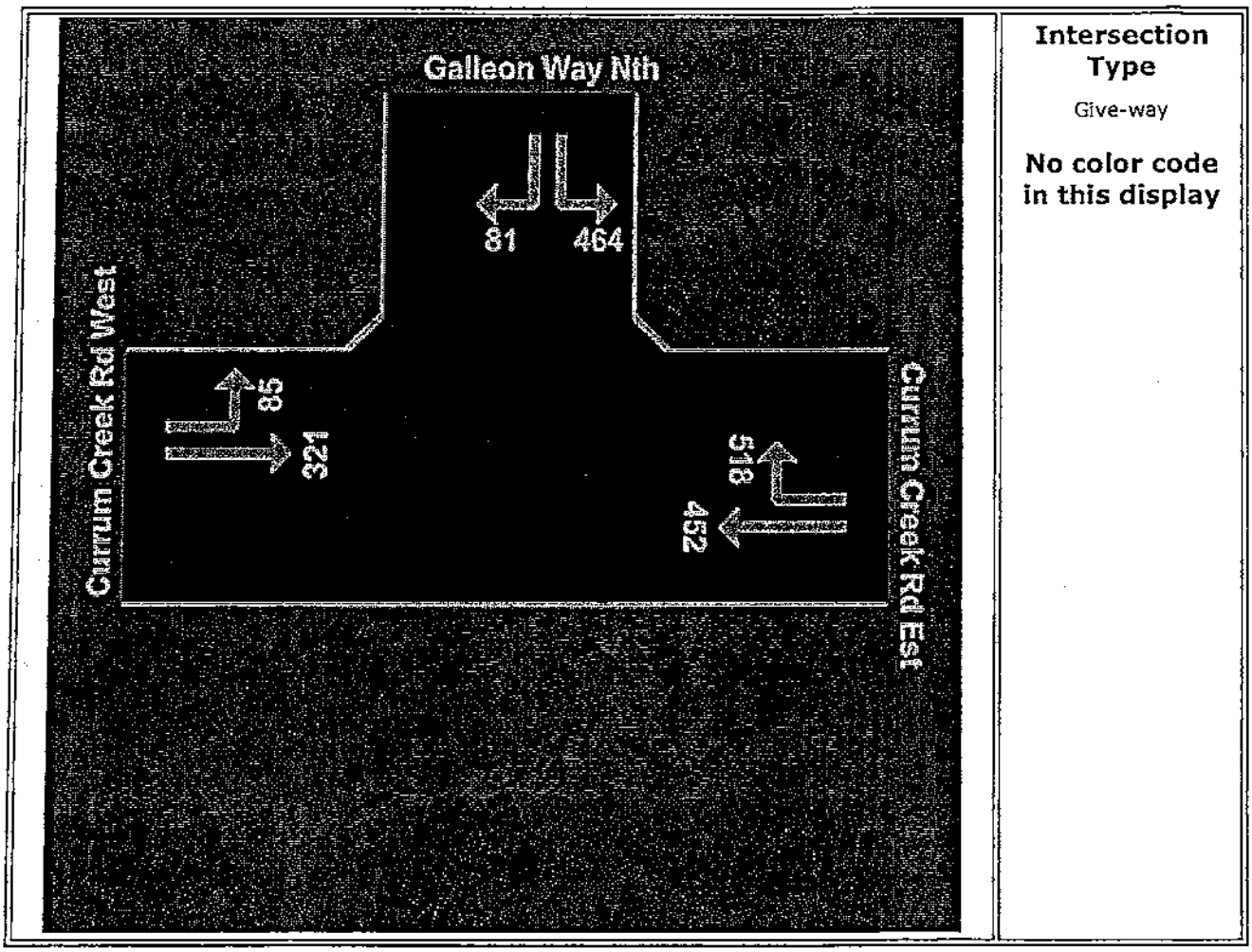
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Input Volumes

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Total flow rates as given by the user (veh/60 min)

Currumbin Creek Rd/Galleon Way, 2019 PM + Development



Intersection Type

Give-way

No color code in this display

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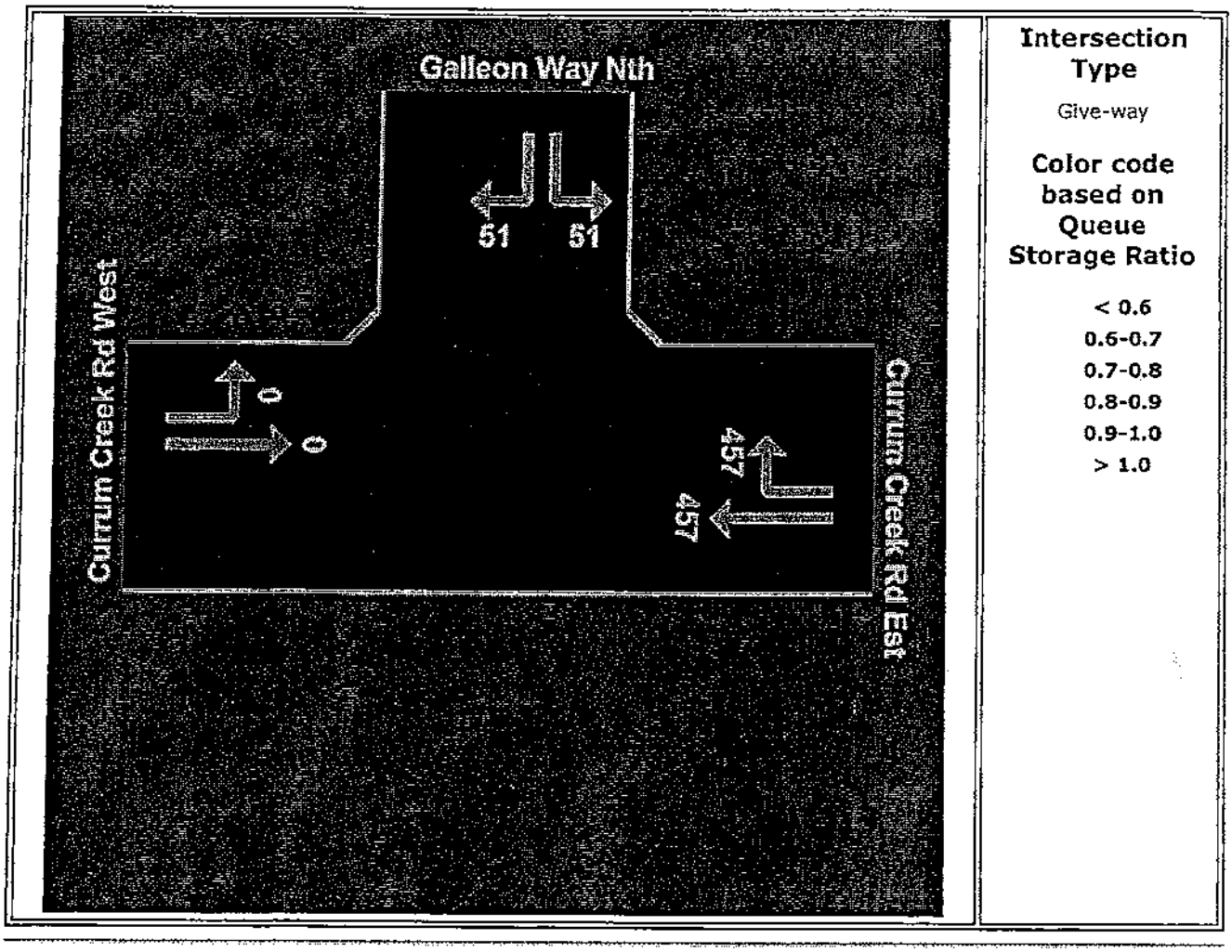
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

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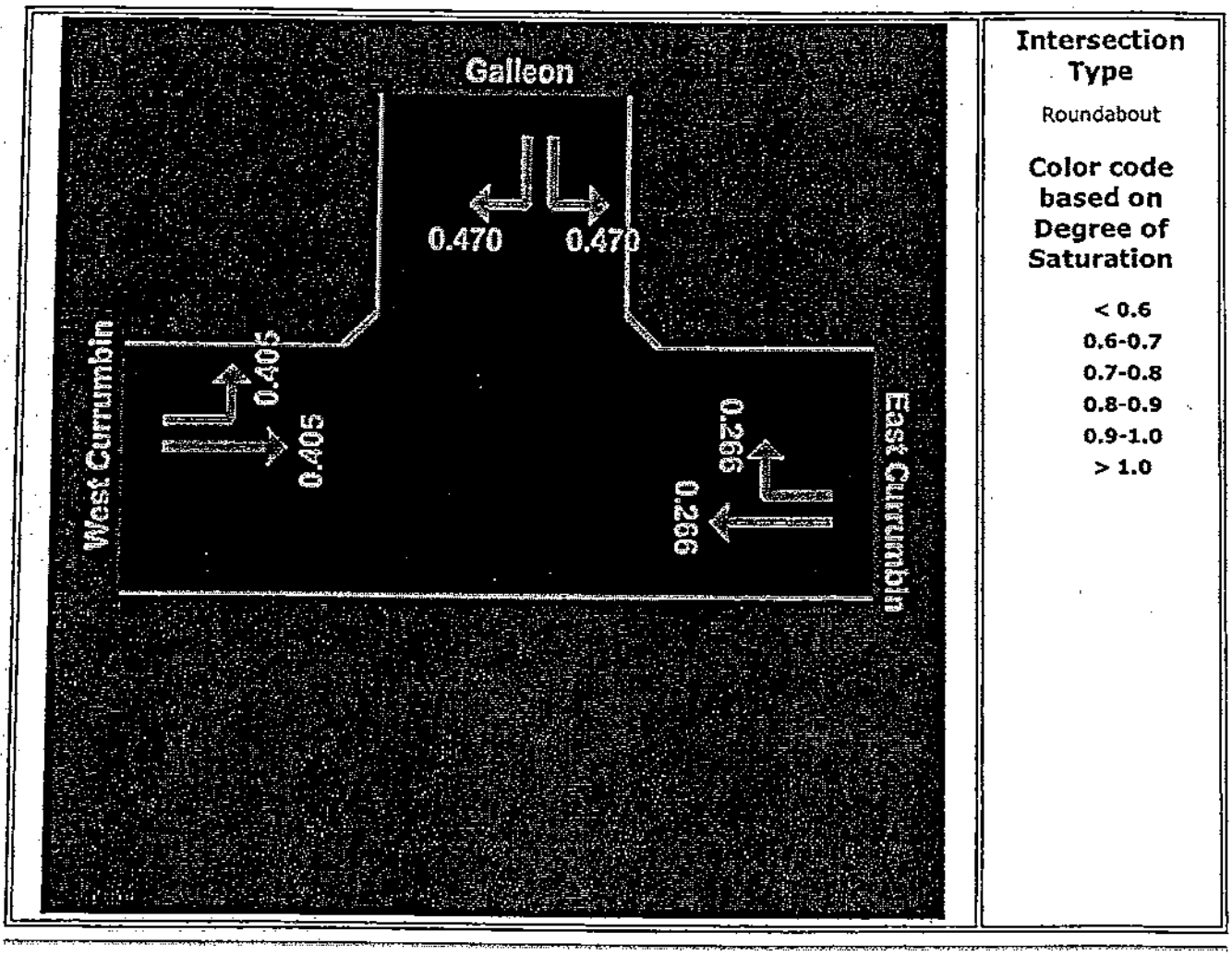
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek/ Galleon 2009 AM



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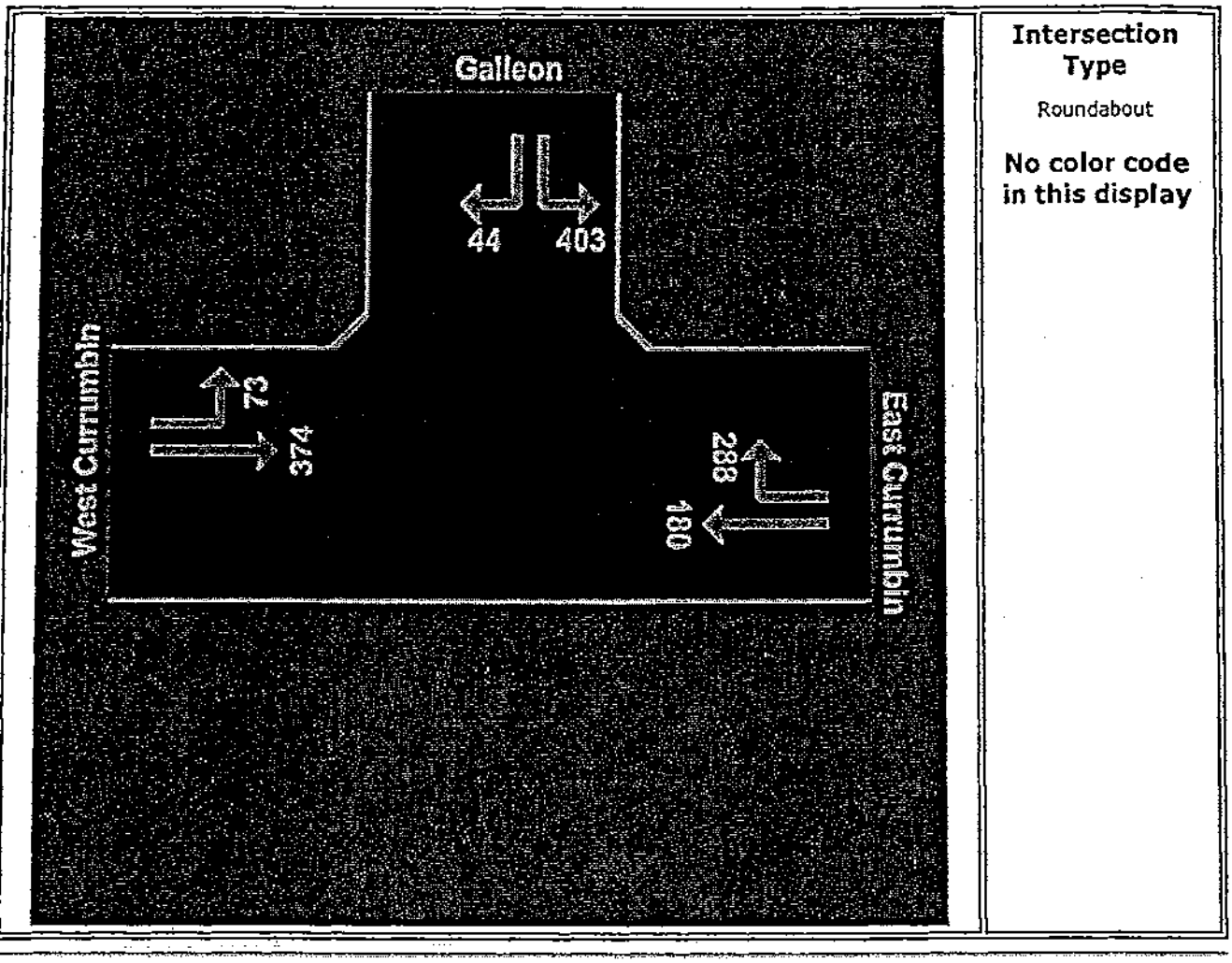
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek/ Galleon 2009 AM



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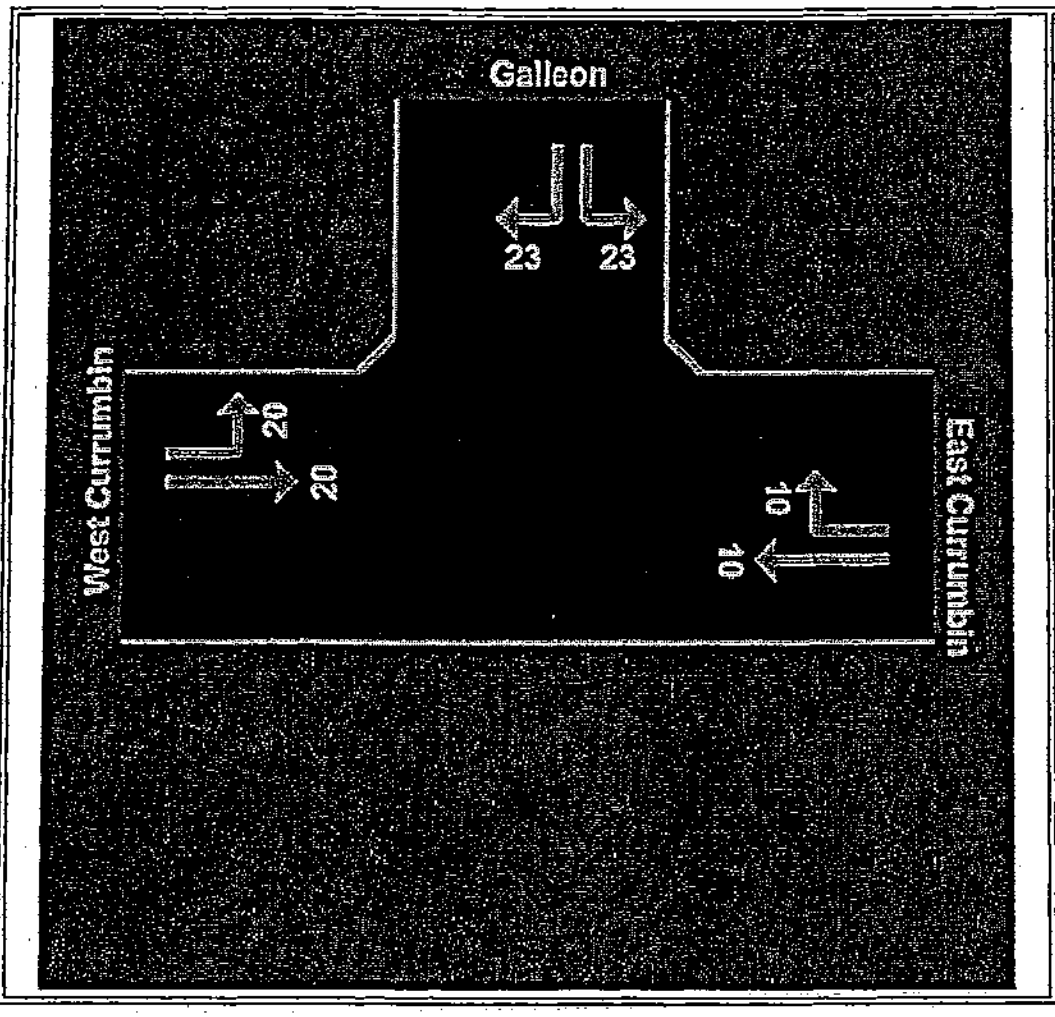
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek/ Galleon 2009 AM



Intersection Type

Roundabout

Color code based on Queue Storage Ratio

< 0.6
0.6-0.7
0.7-0.8
0.8-0.9
0.9-1.0
> 1.0

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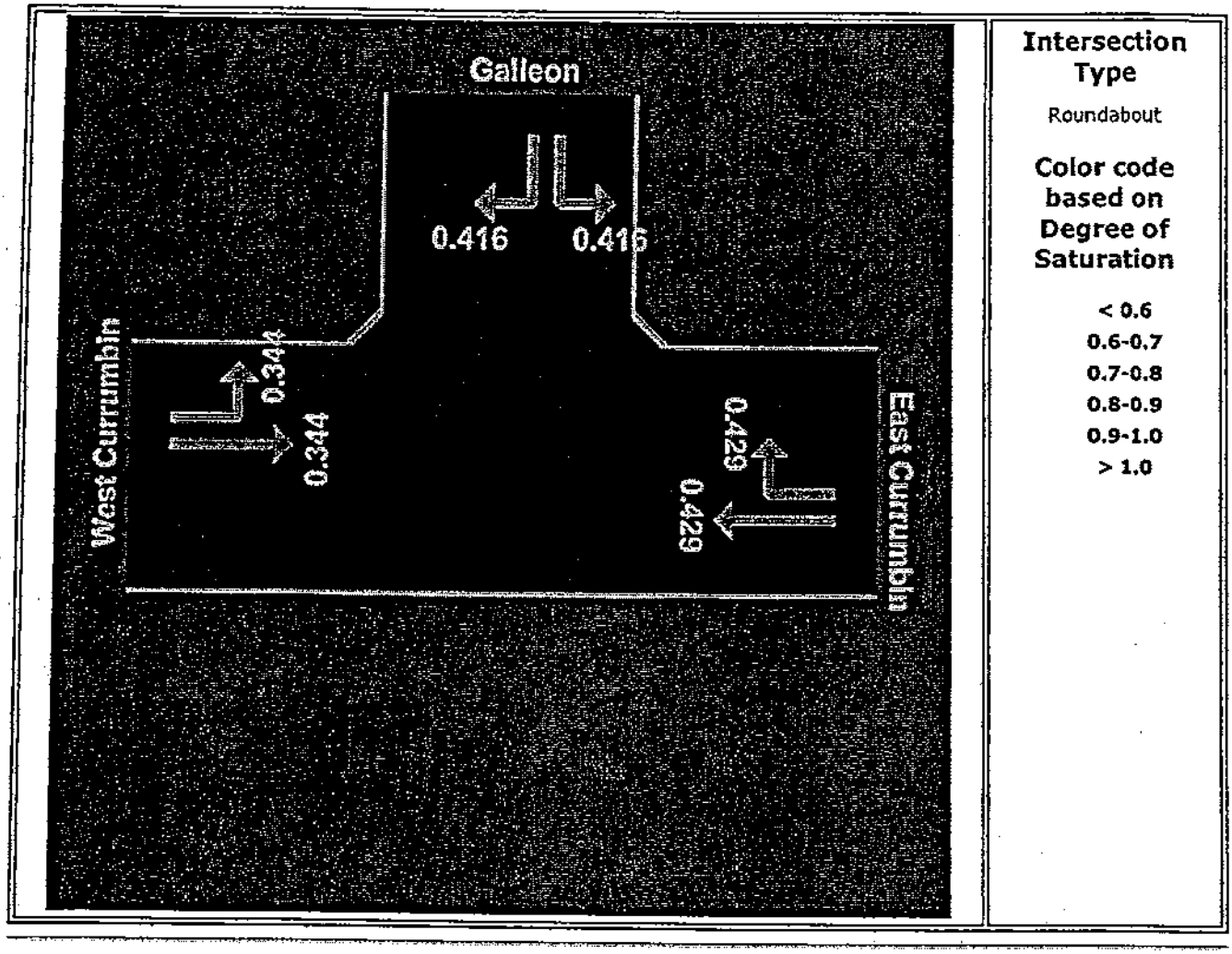
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek/ Galleon 2009 PM



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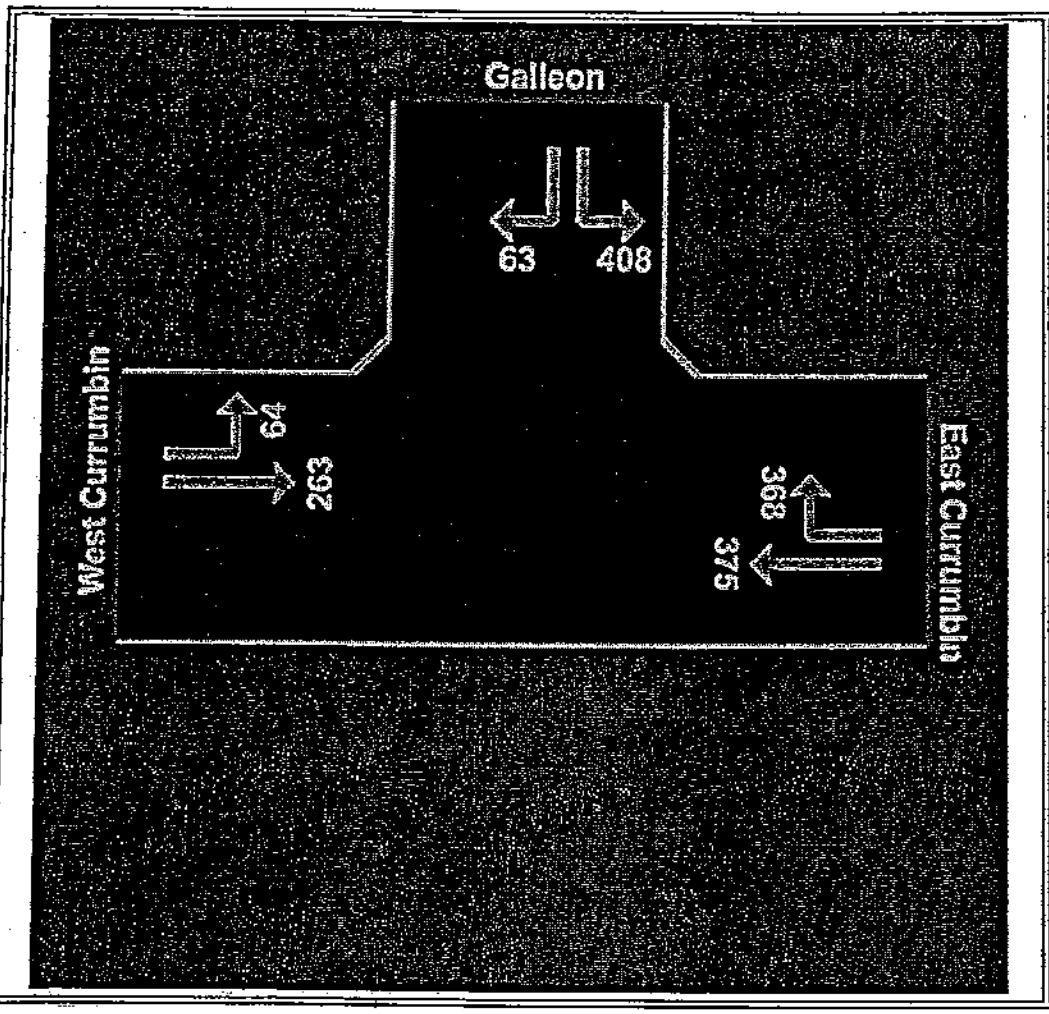
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek/ Galleon 2009 PM



Intersection Type

Roundabout

No color code in this display

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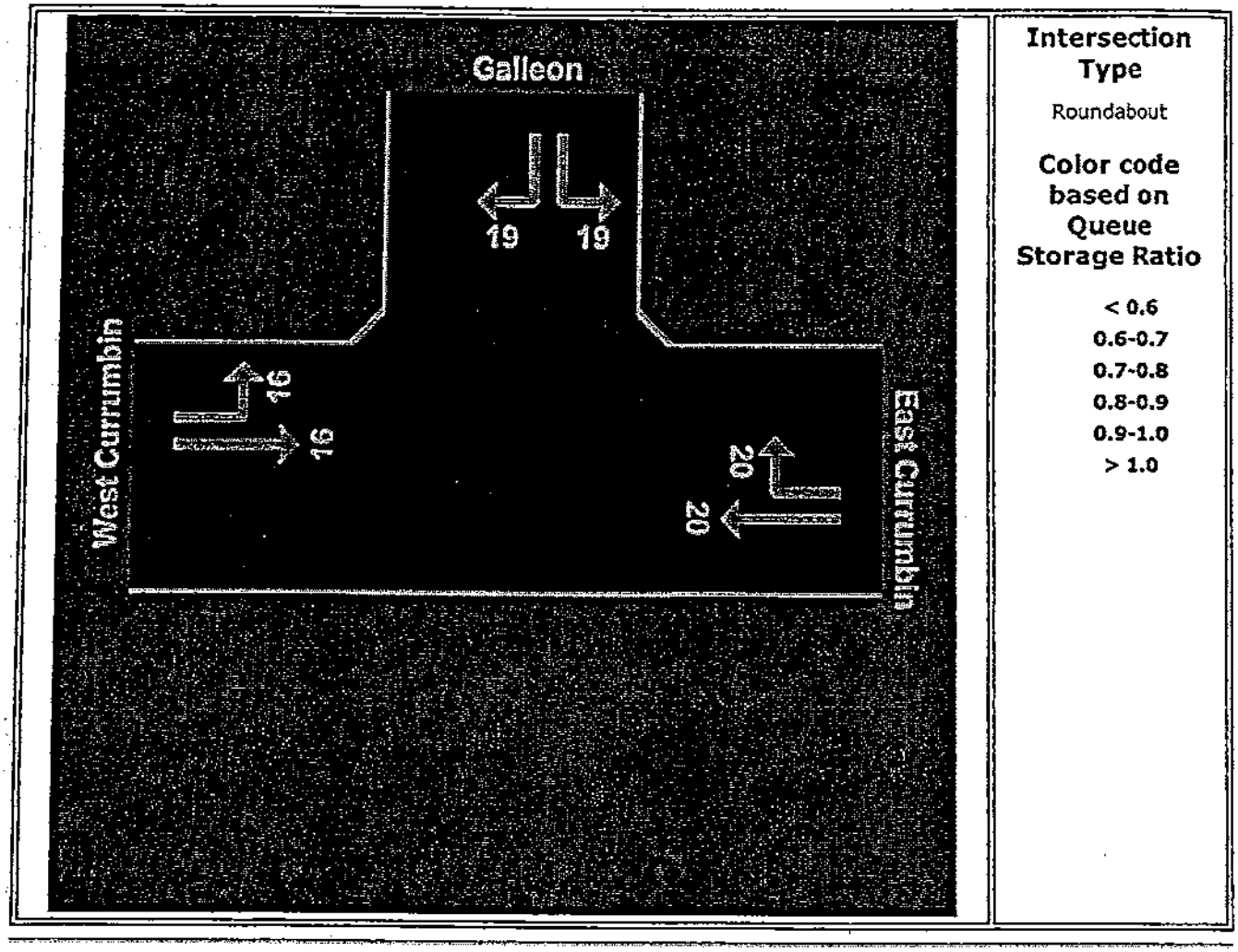
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek/ Galleon 2009 PM



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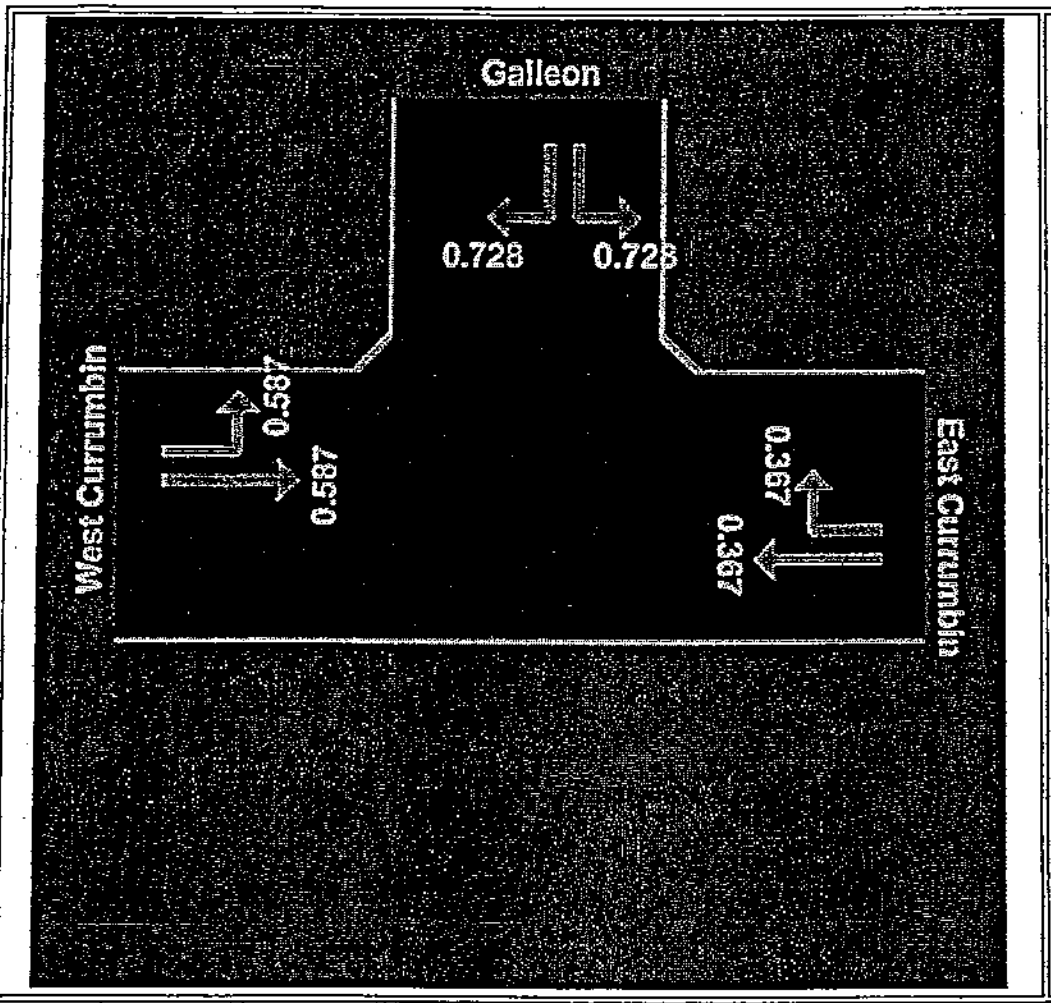
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Degree of Saturation

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aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Currumbin Creek/ Galleon 2019 AM



Intersection Type

Roundabout

Color code based on Degree of Saturation

< 0.6
0.6-0.7
0.7-0.8
0.8-0.9
0.9-1.0
> 1.0

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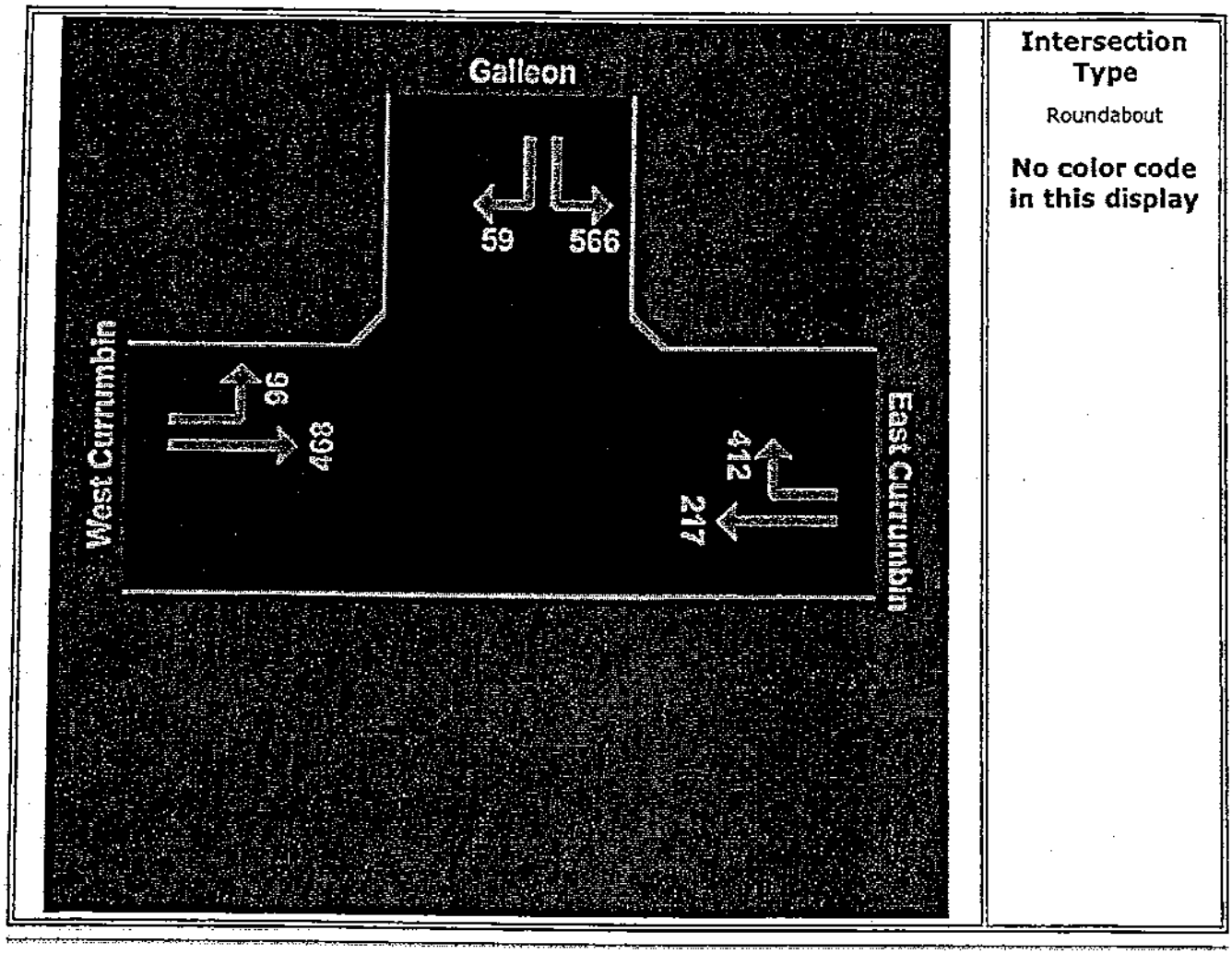
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Input Volumes

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Total flow rates as given by the user (veh/60 min)

Currumbin Creek/ Galleon 2019 AM



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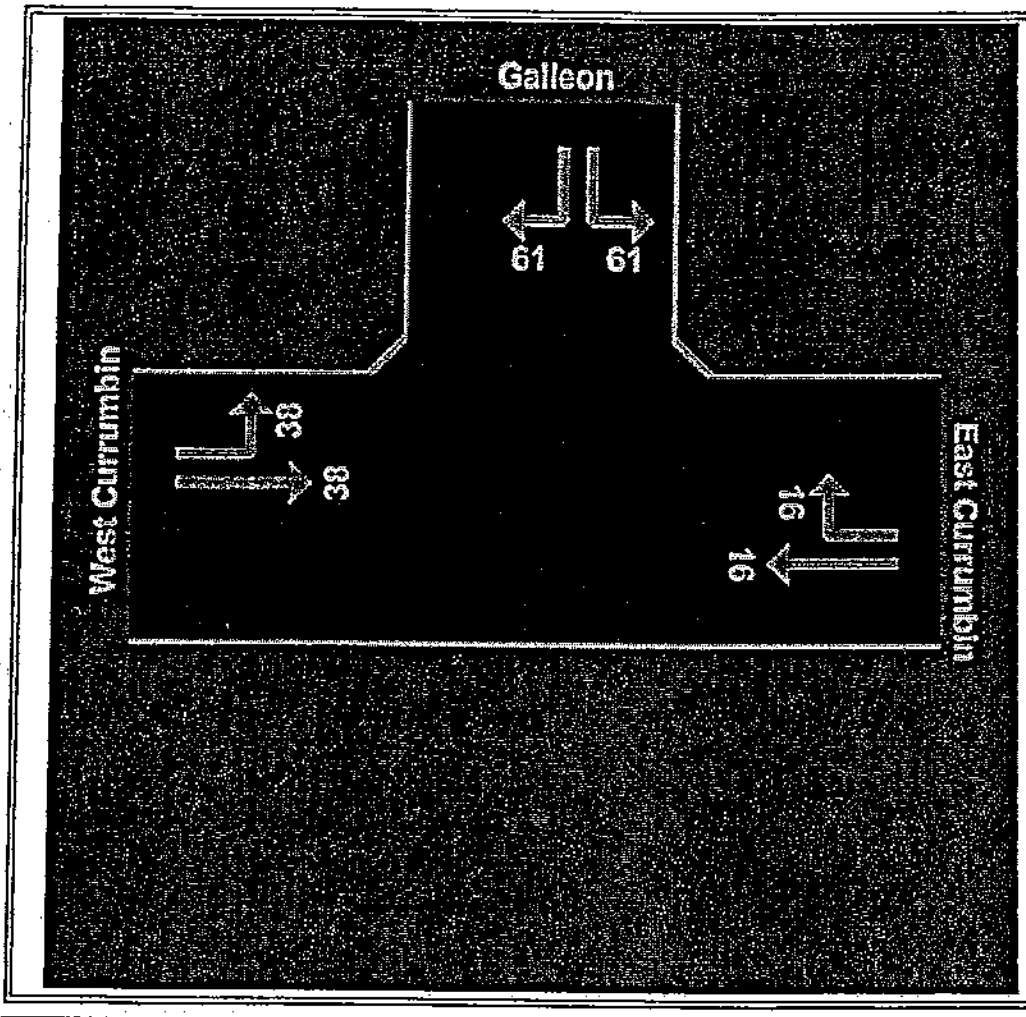
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek/ Galleon 2019 AM



Intersection Type

Roundabout

Color code based on Queue Storage Ratio

- **< 0.6**
- **0.6-0.7**
- **0.7-0.8**
- **0.8-0.9**
- **0.9-1.0**
- **> 1.0**

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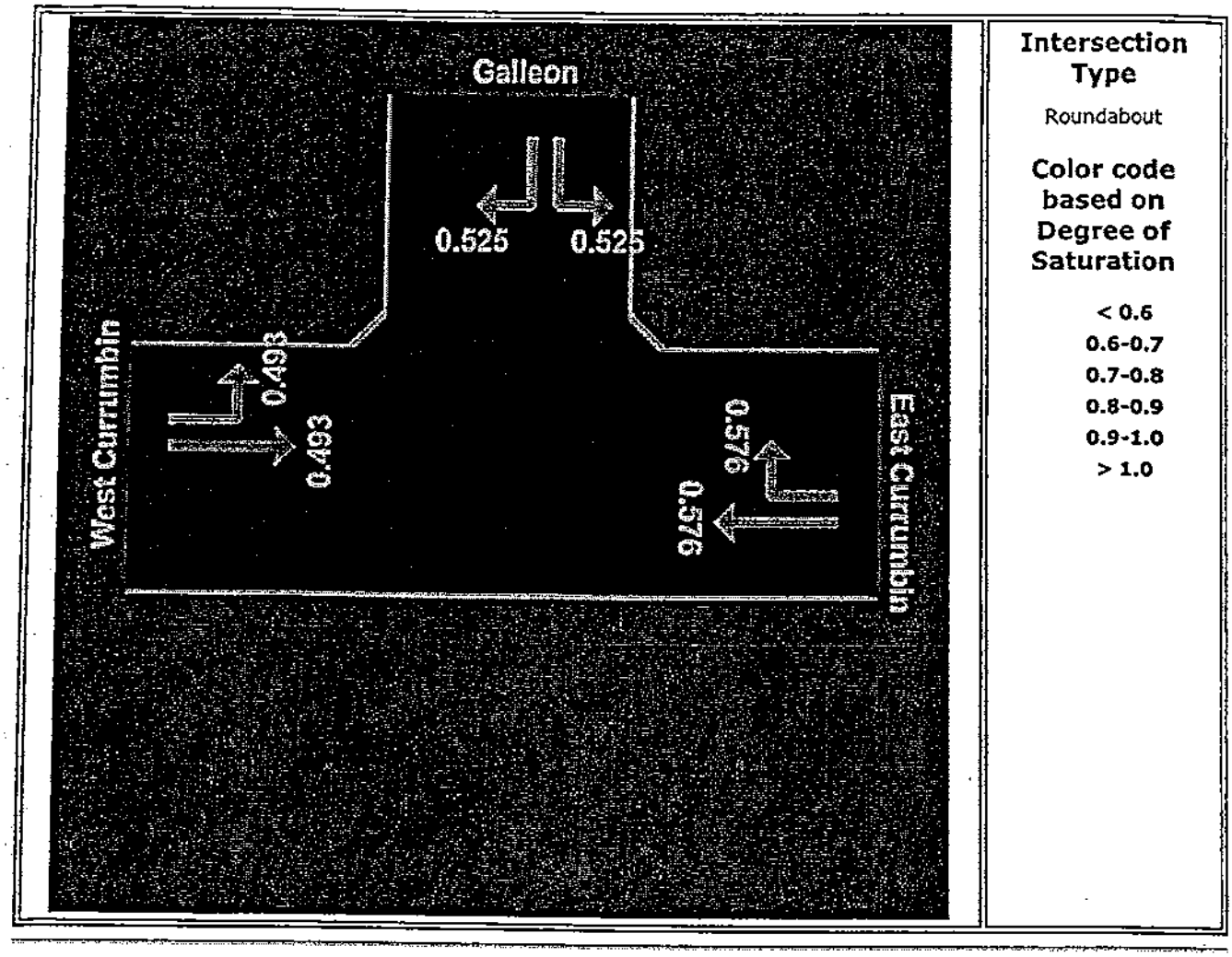
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek/ Galleon 2019 PM



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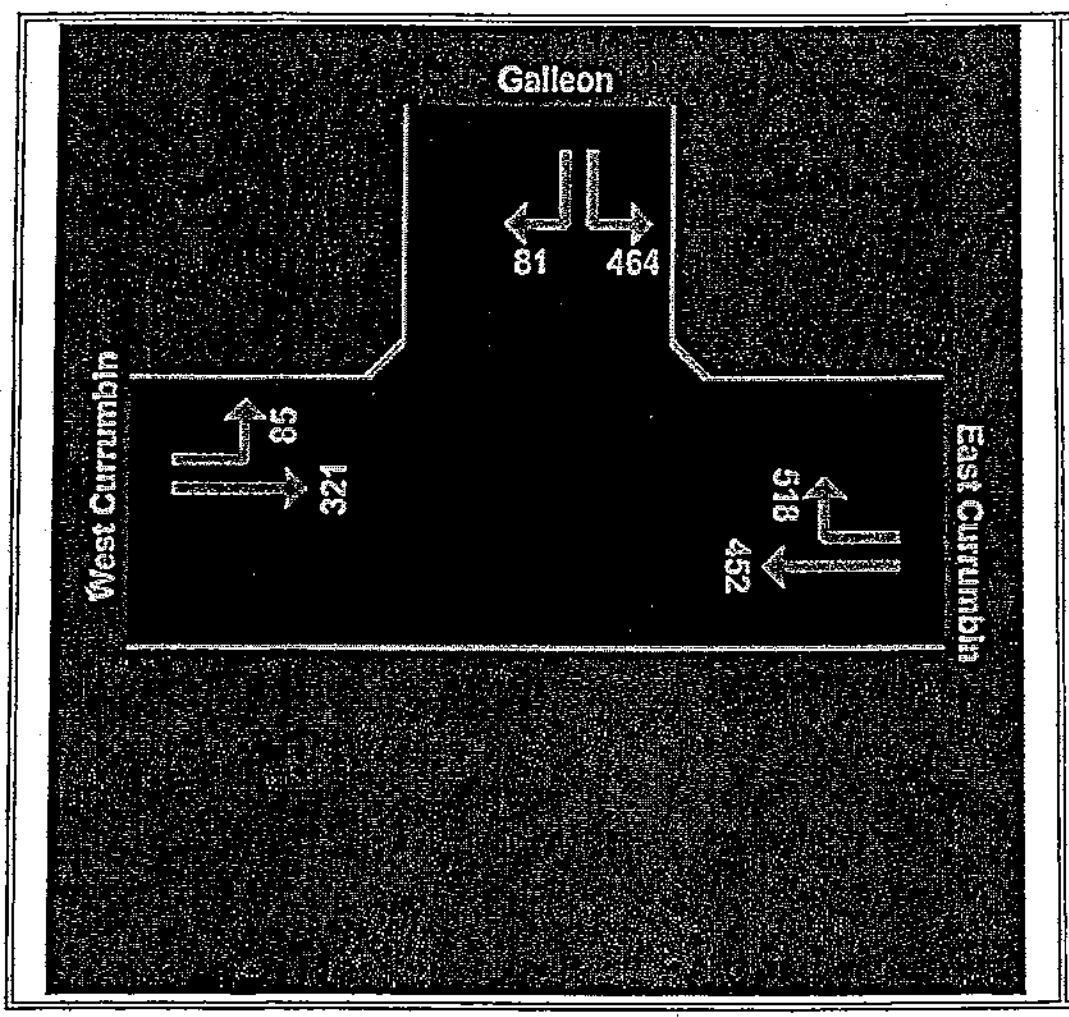
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek/ Galleon 2019 PM



Intersection Type

Roundabout

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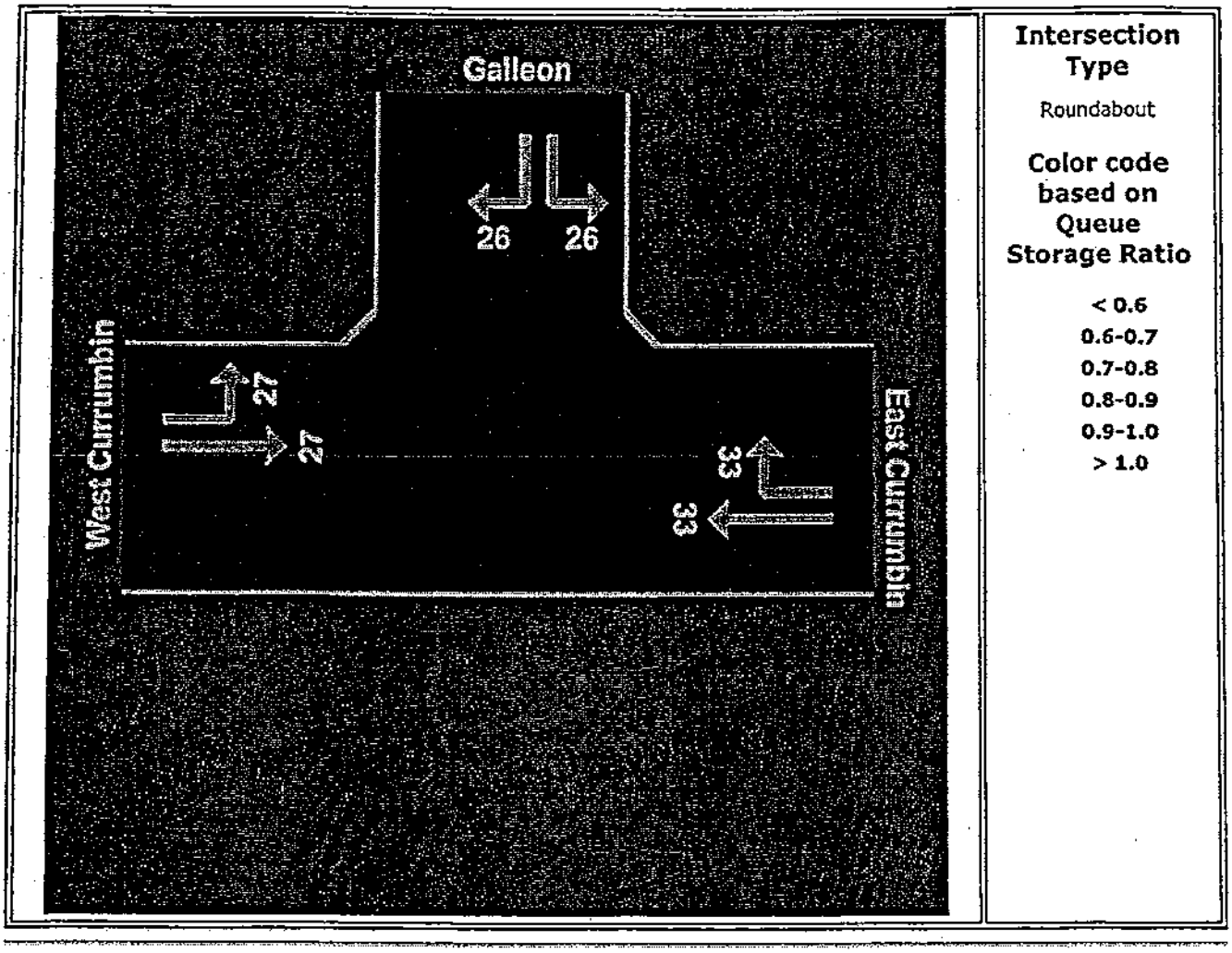
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek/ Galleon 2019 PM



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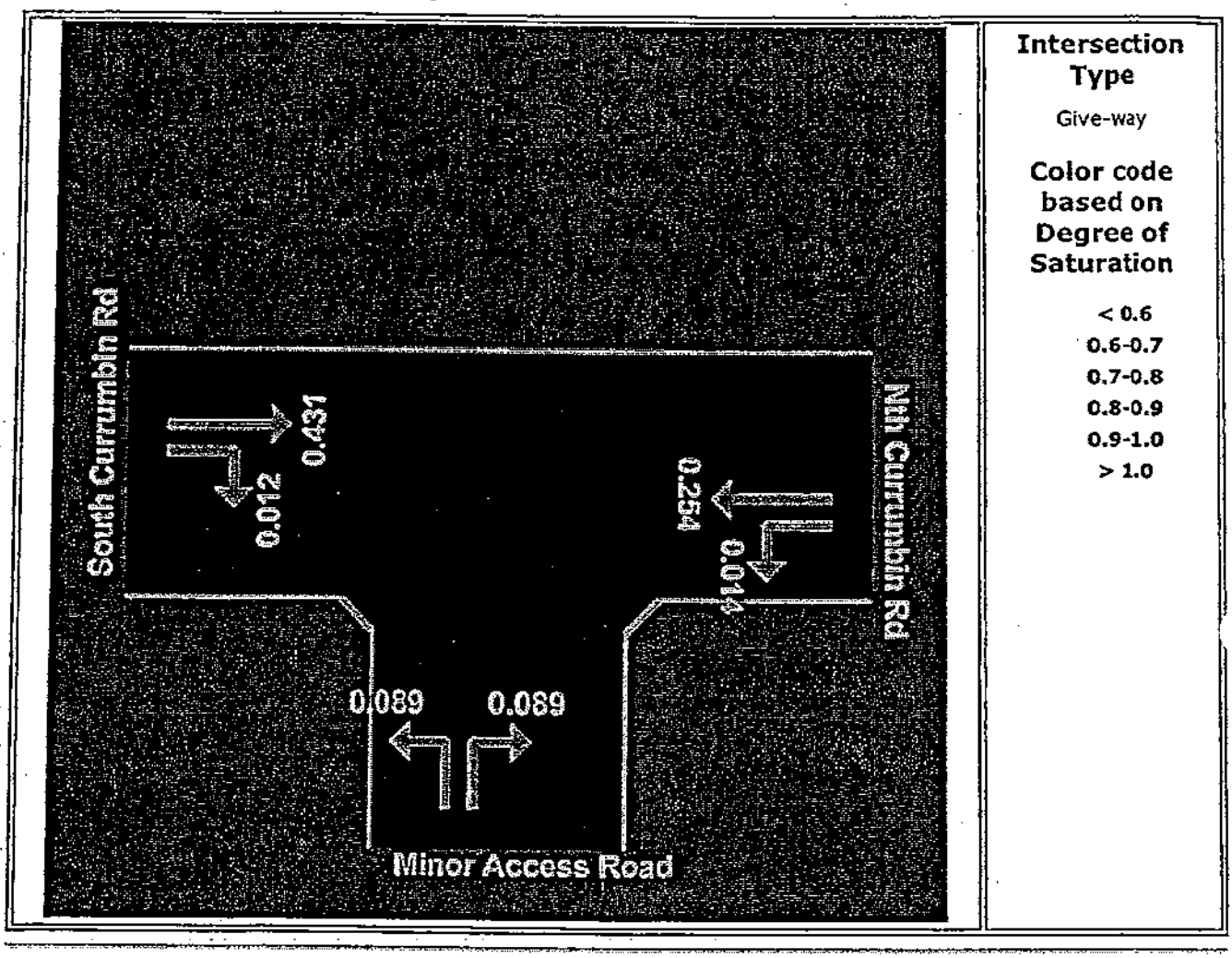
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Currumbin Creek RD / Minor Access 2009 AM



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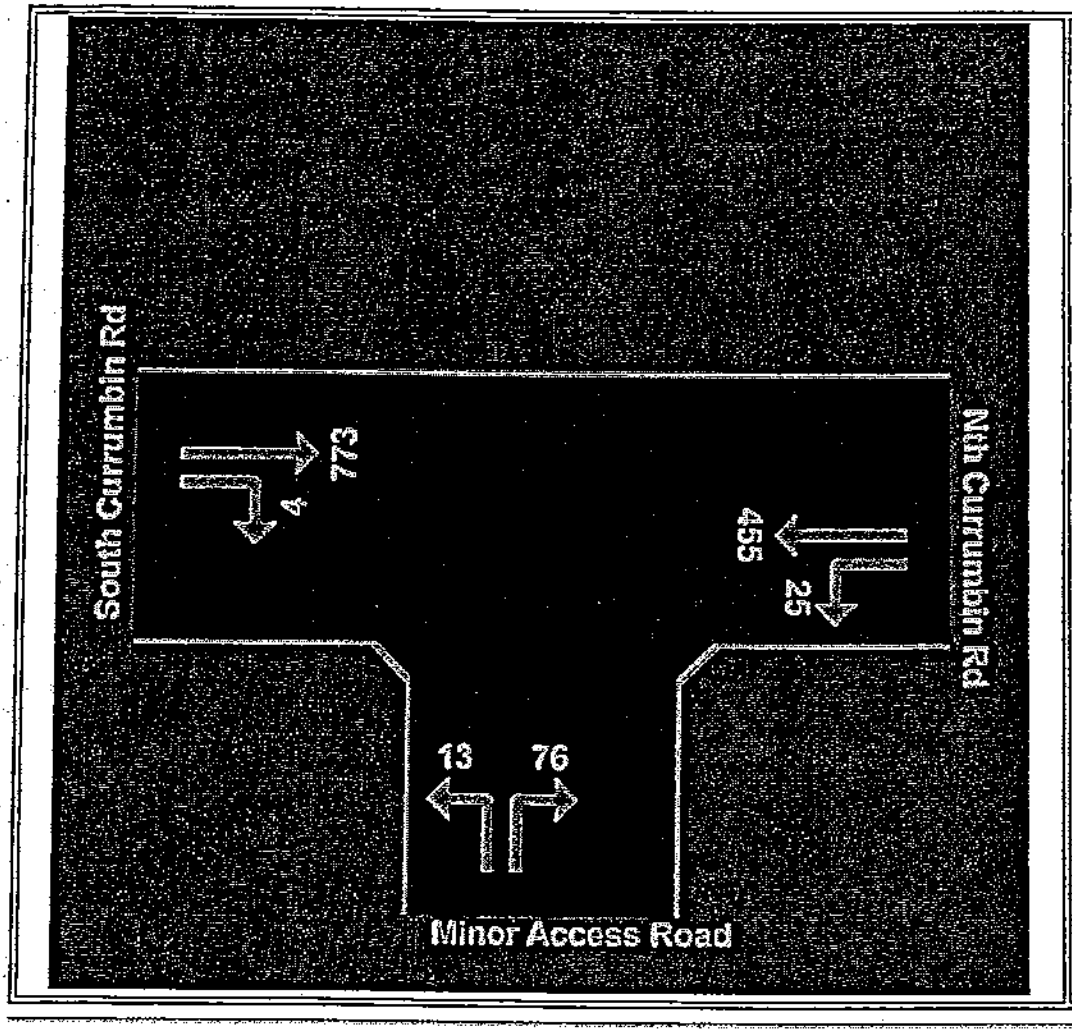
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek RD / Minor Access 2009 AM



Intersection Type

Give-way

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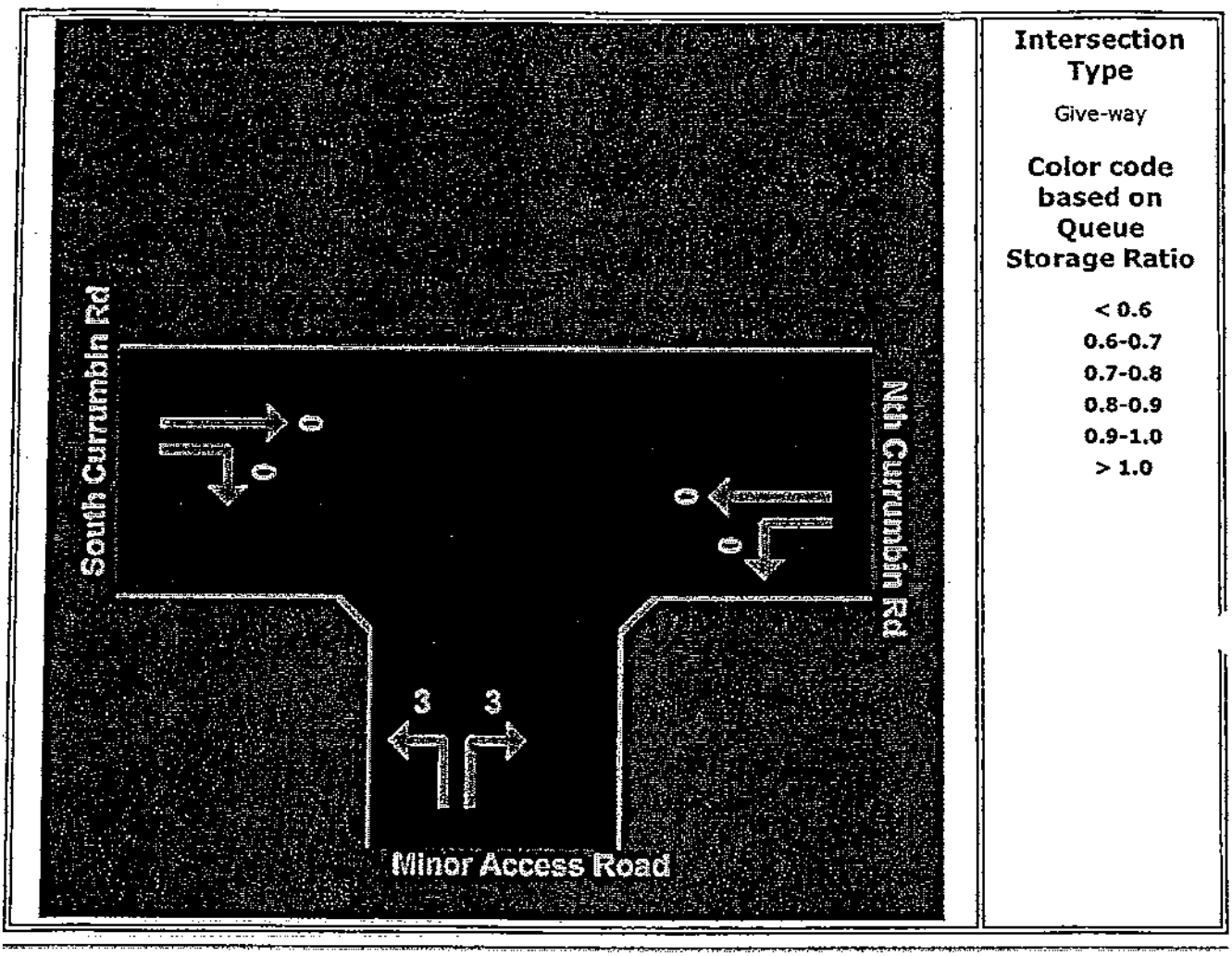
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek RD / Minor Access 2009 AM



Intersection Type

Give-way

Color code based on Queue Storage Ratio

- < 0.6
- 0.6-0.7
- 0.7-0.8
- 0.8-0.9
- 0.9-1.0
- > 1.0

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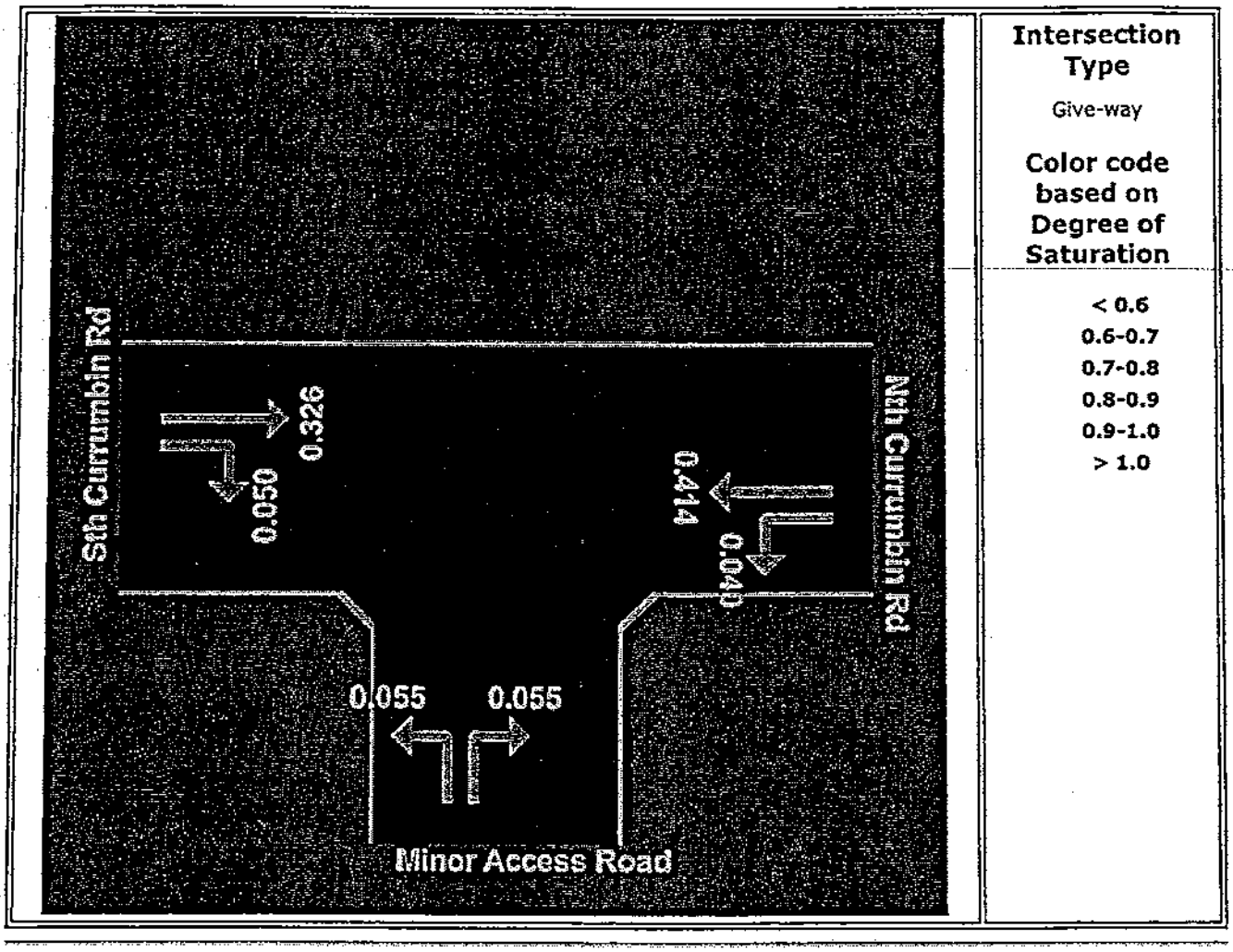
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Degree of Saturation

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aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Currumbin Creek RD / Minor Access 2009 PM



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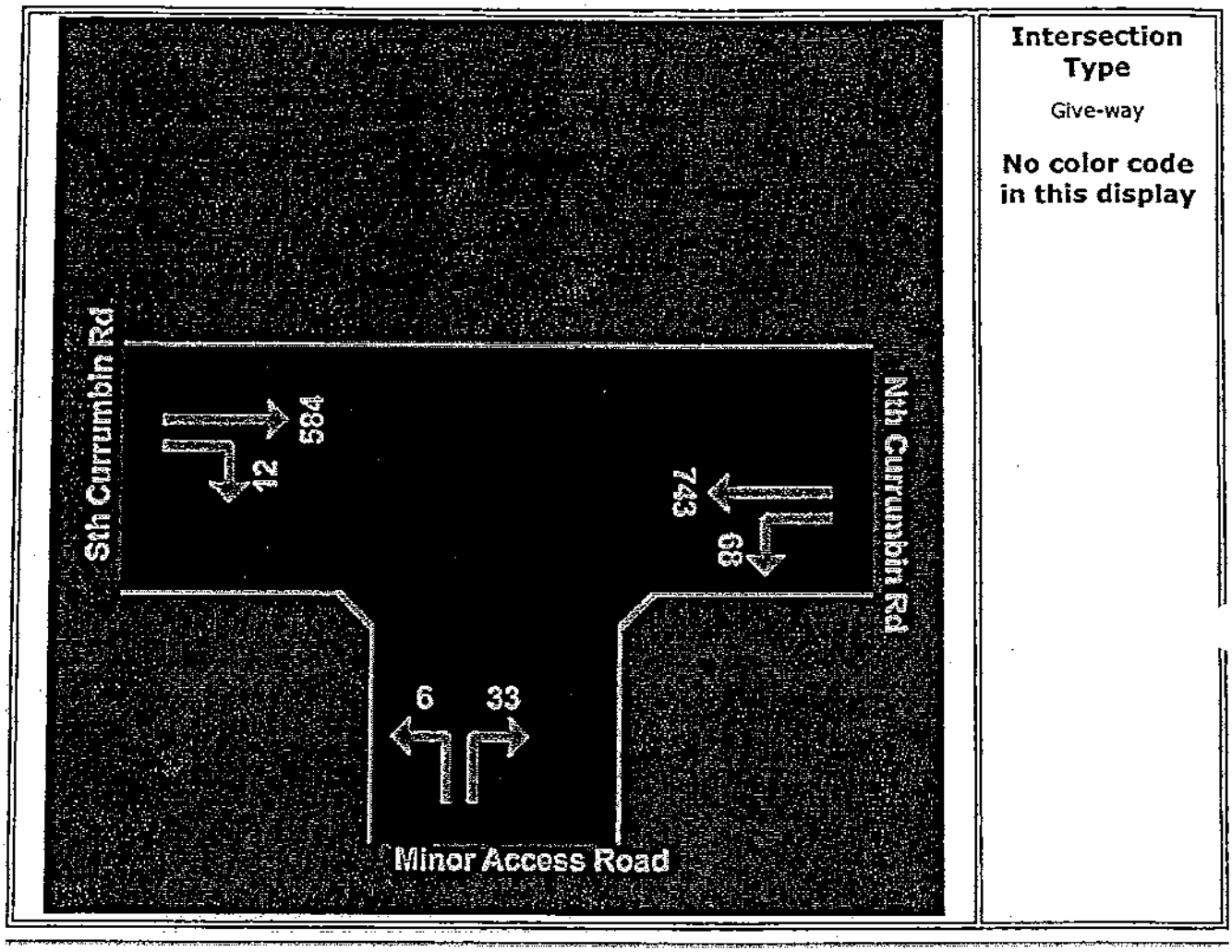
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek RD / Minor Access 2009 PM



Intersection Type

Give-way

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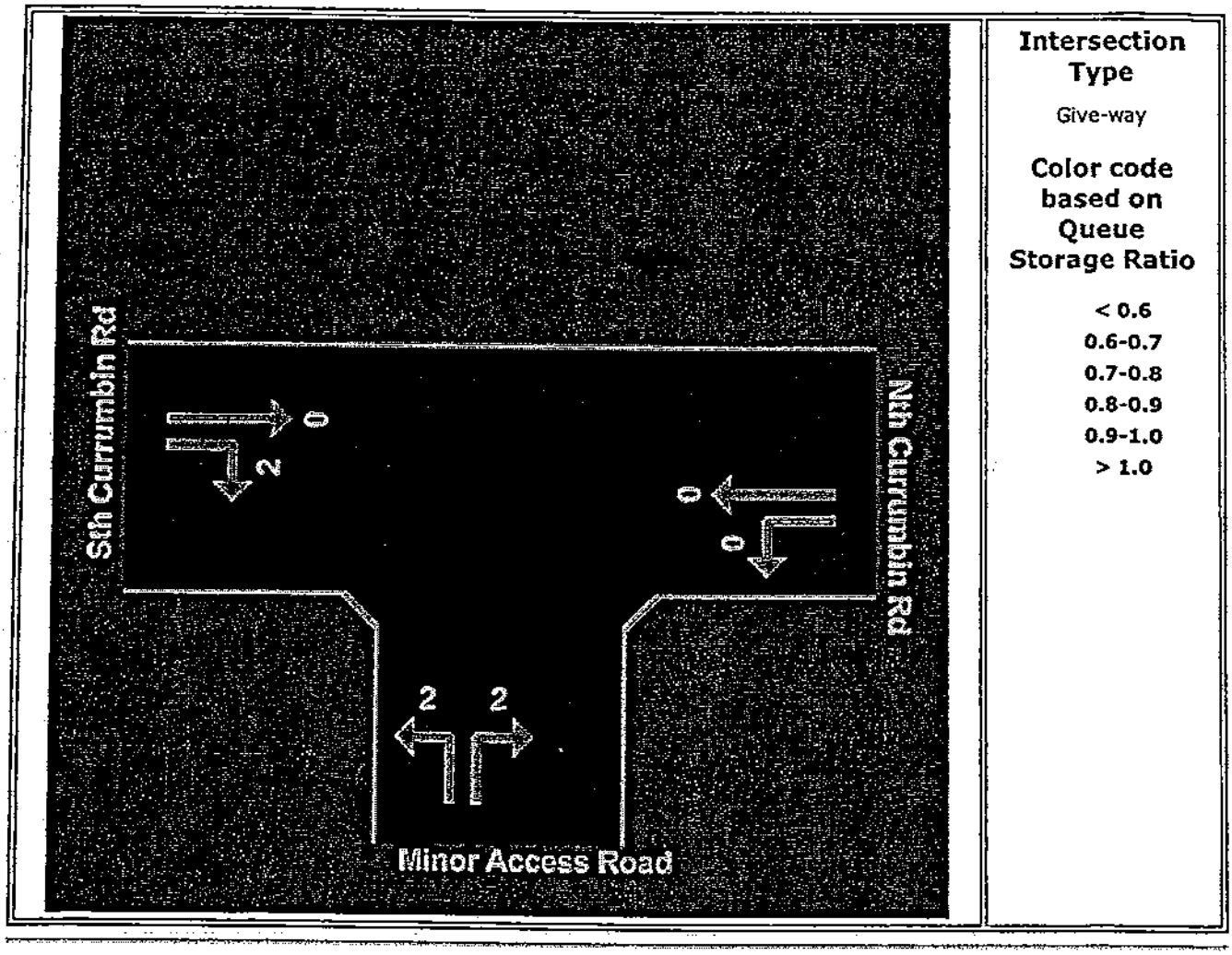
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Queue Distance

akcelik & associates
aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek RD / Minor Access 2009 PM



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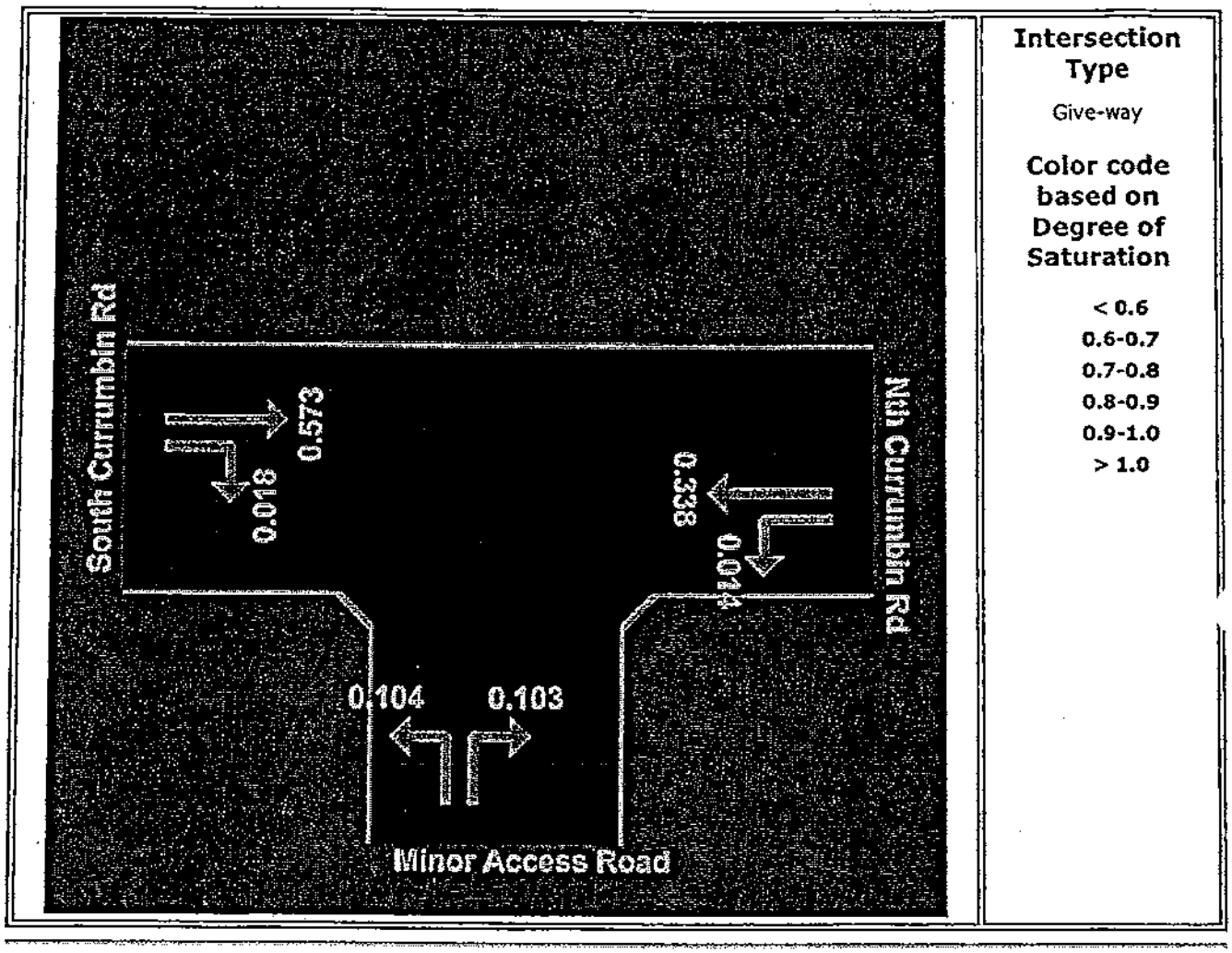
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Degree of Saturation

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aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Currumbin Creek RD / Minor Access 2019 AM



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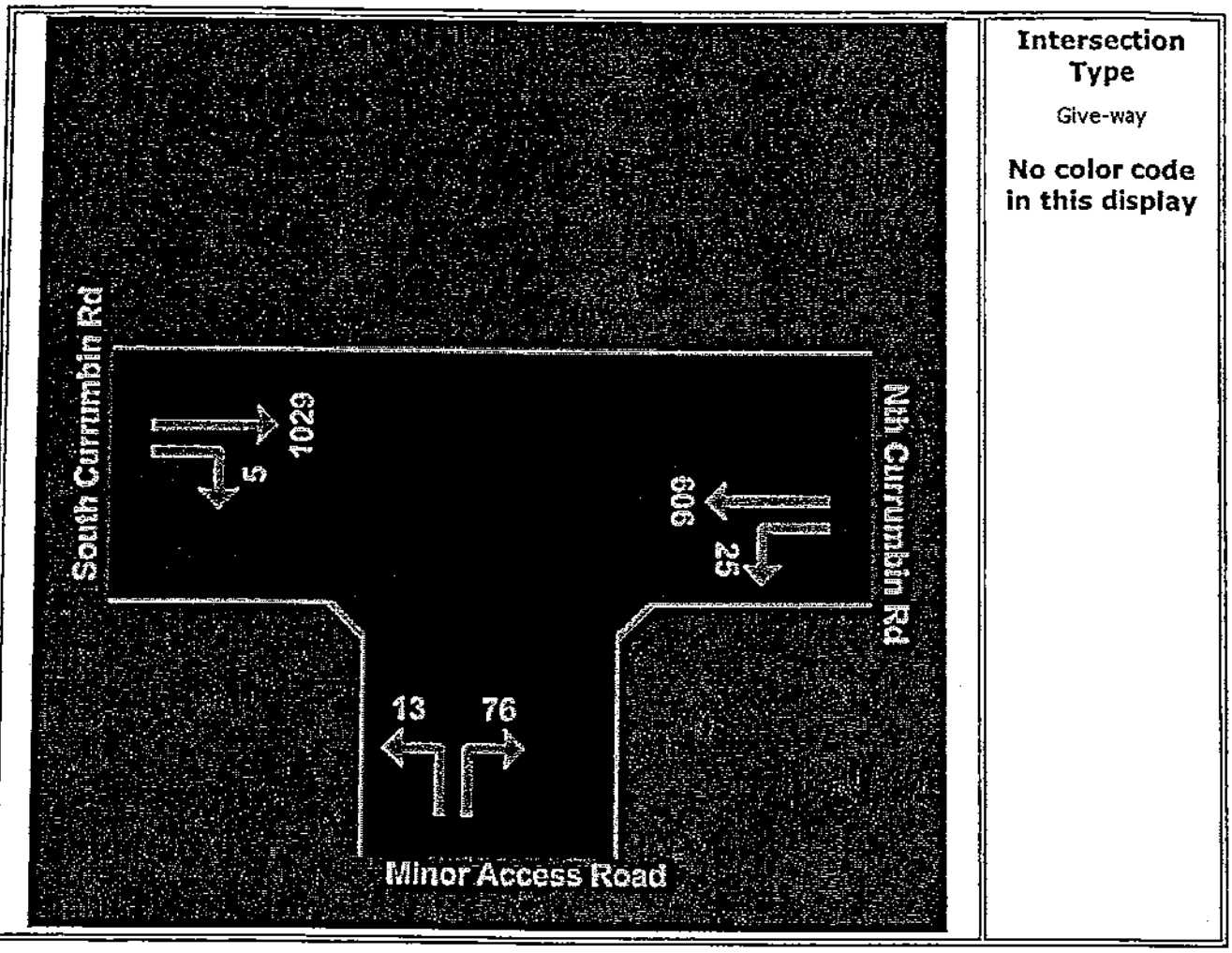
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Input Volumes

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Total flow rates as given by the user (veh/60 min)

Currumbin Creek RD / Minor Access 2019 AM



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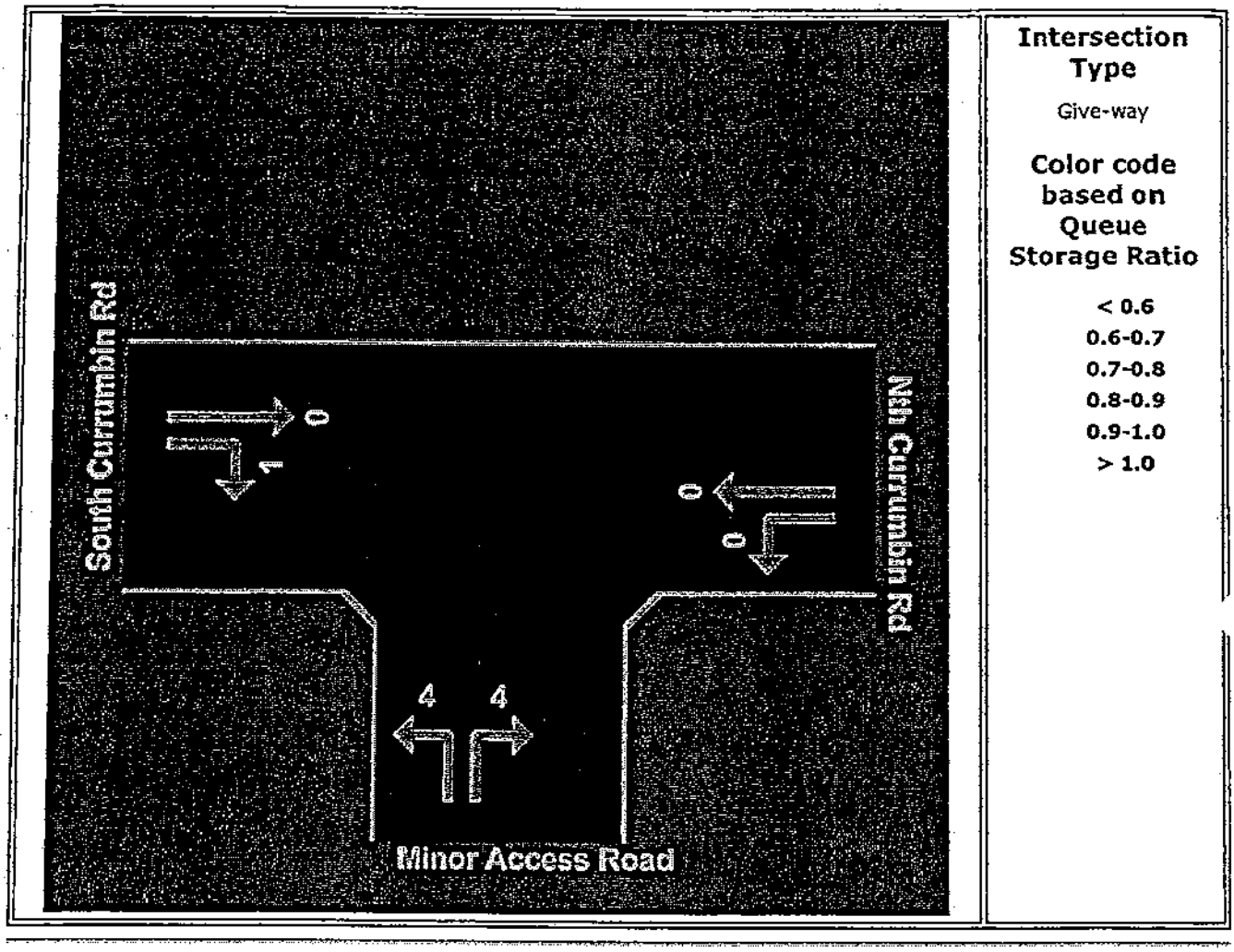
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek RD / Minor Access 2019 AM



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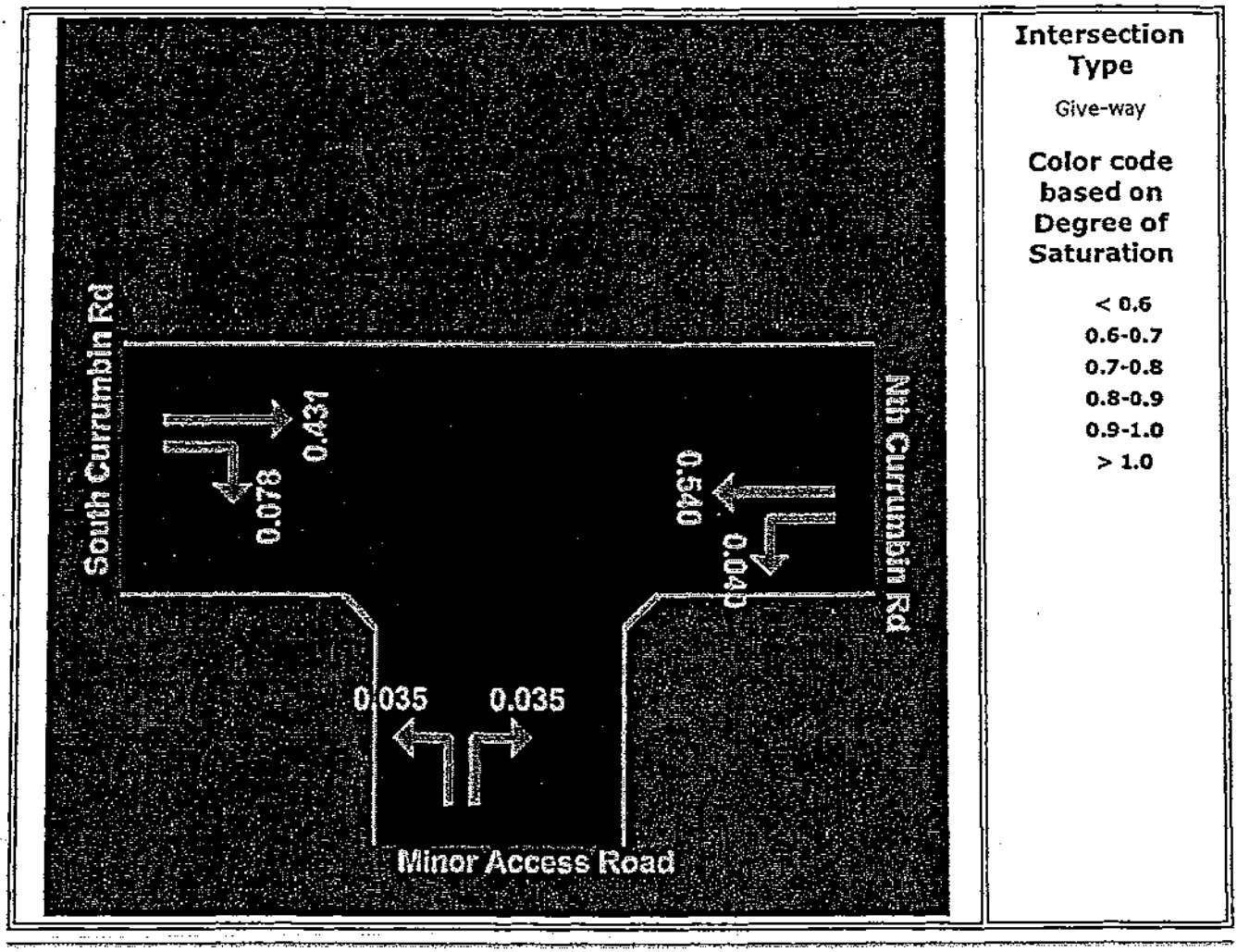
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Degree of Saturation

akcelik & associates
aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Currumbin Creek RD / Minor Access 2019 PM



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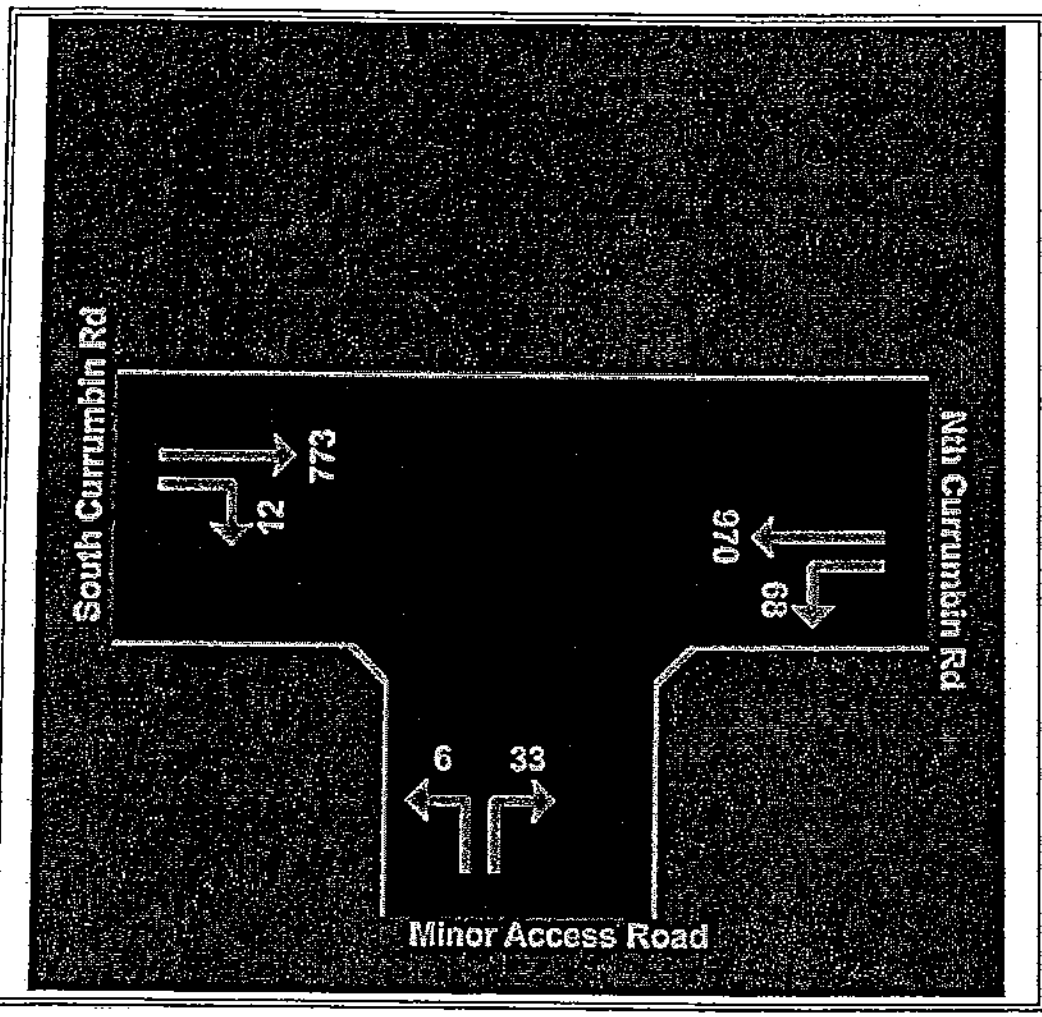
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Currumbin Creek RD / Minor Access 2019 PM



Intersection Type

Give-way

No color code in this display

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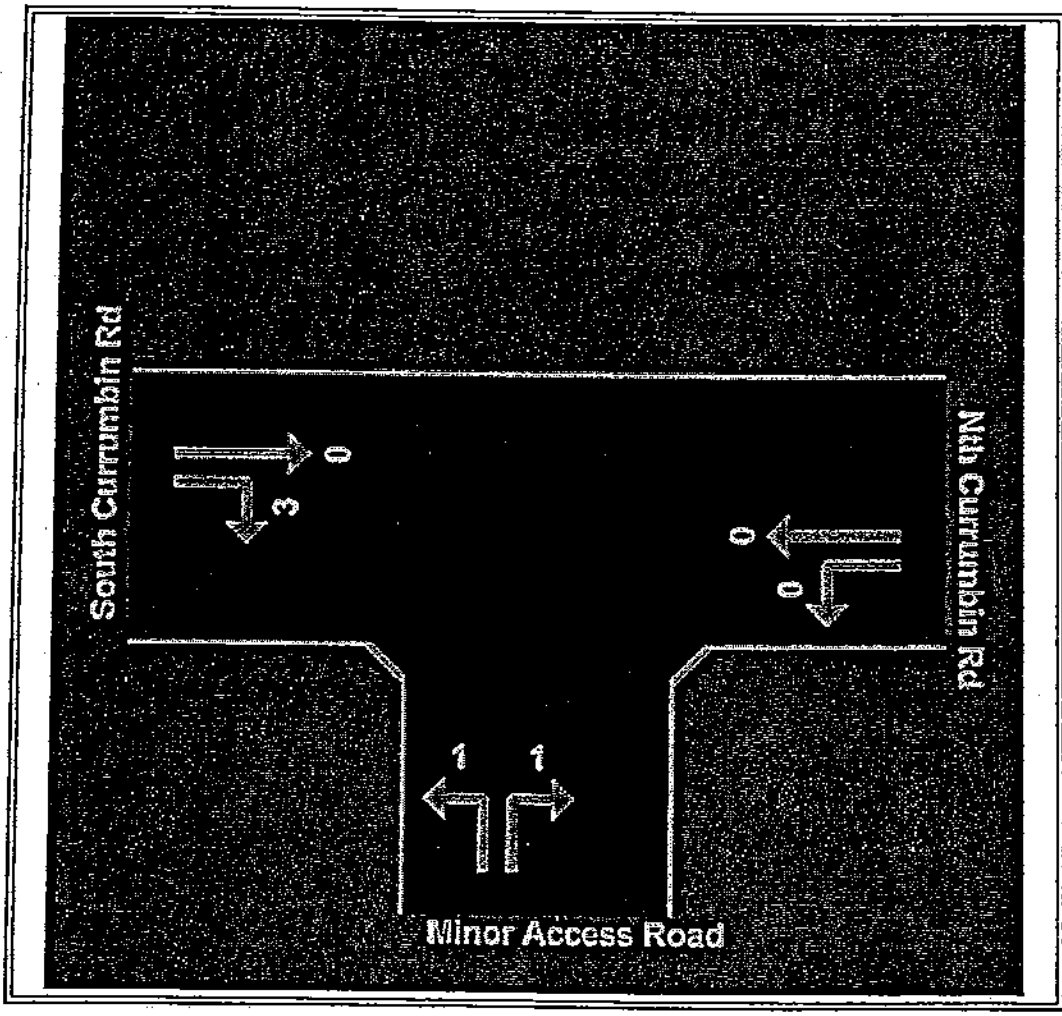
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Queue Distance

akcelik & associates
aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Currumbin Creek RD / Minor Access 2019 PM



Intersection Type

Give-way

Color code based on Queue Storage Ratio

< 0.6
0.6-0.7
0.7-0.8
0.8-0.9
0.9-1.0
> 1.0

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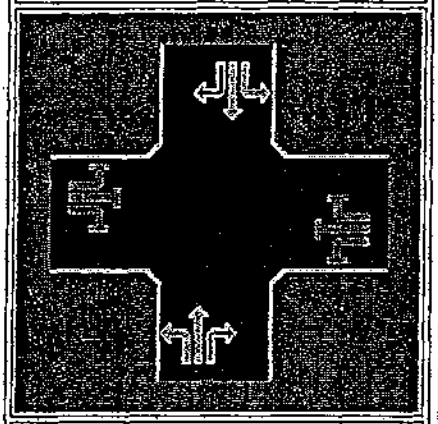
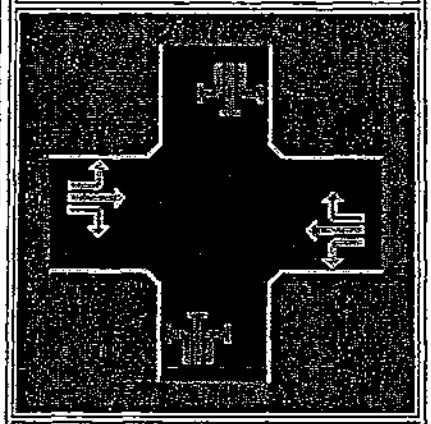
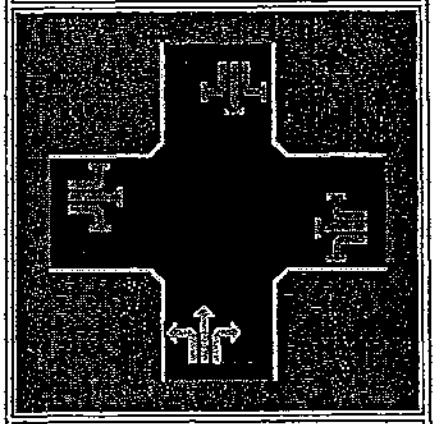
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Phasing

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aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Existing AM 2009, no development)

C = **105** seconds
Cycle Time Option: **Program calculated cycle time**
Phase times determined by the program.

Phase G	Phase H	Phase I
		
G = **29** seconds G + I = **35** seconds (G + I)/C = **33.3 %**	G = **50** seconds G + I = **56** seconds (G + I)/C = **53.3 %**	G = **8** seconds G + I = **14** seconds (G + I)/C = **13.3 %**

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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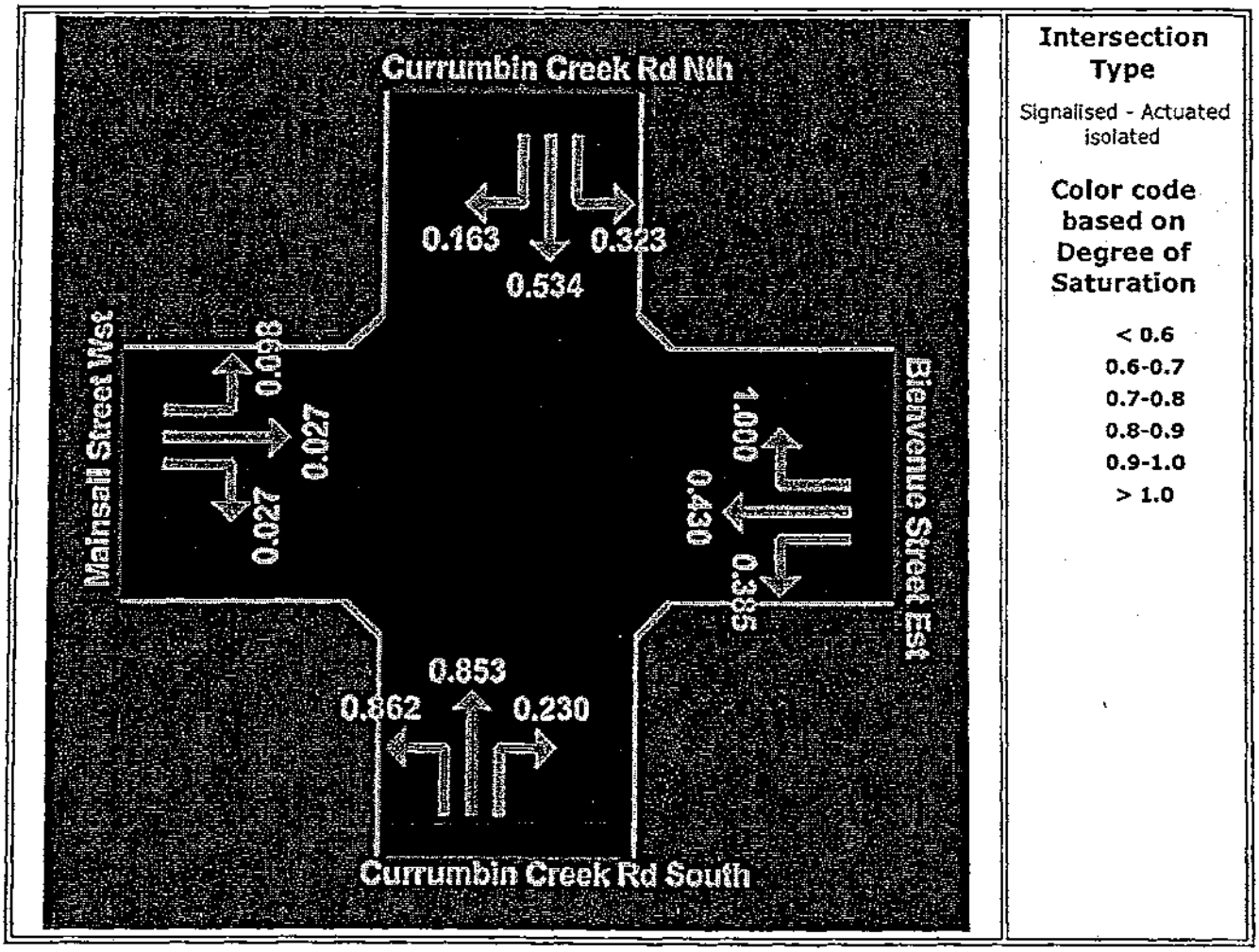
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Degree of Saturation

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aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Existing AM 2009, no development)



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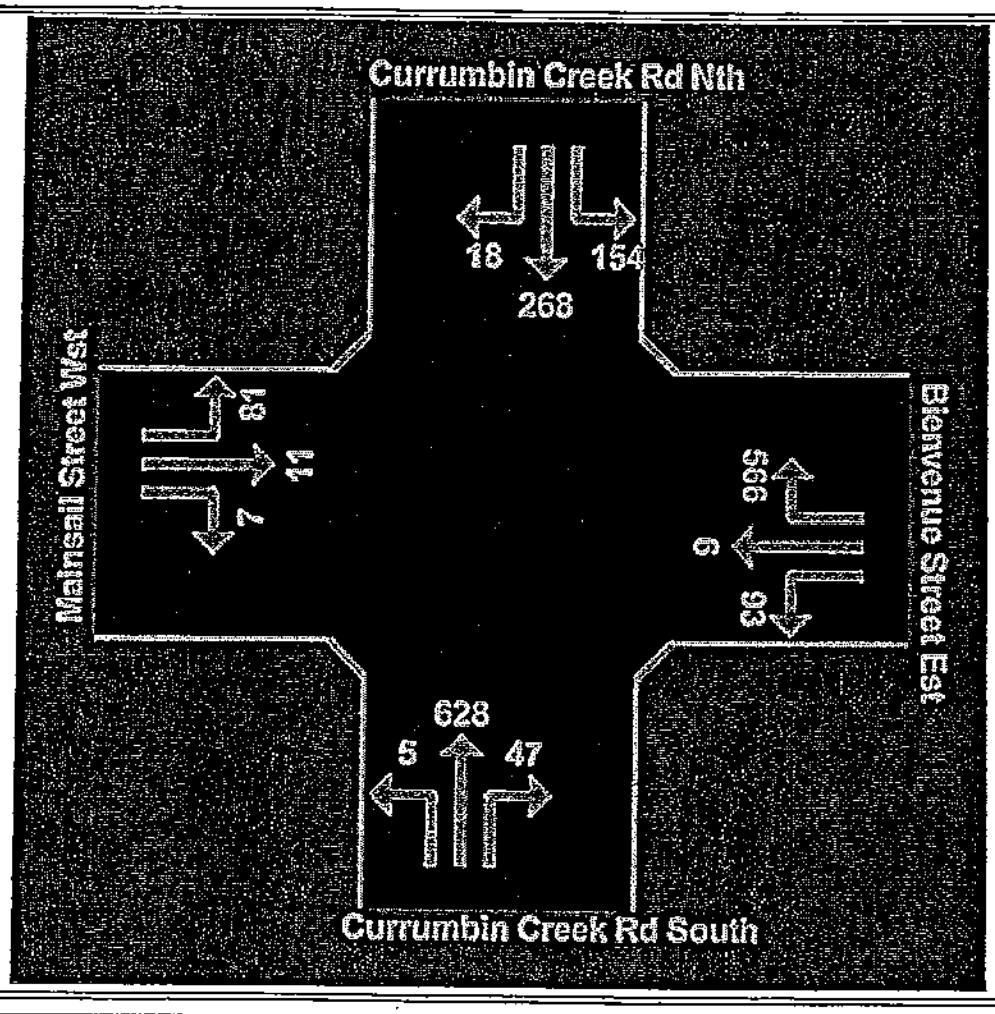
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Existing AM 2009, no development)



Intersection Type

Signalised - Actuated isolated

No color code in this display

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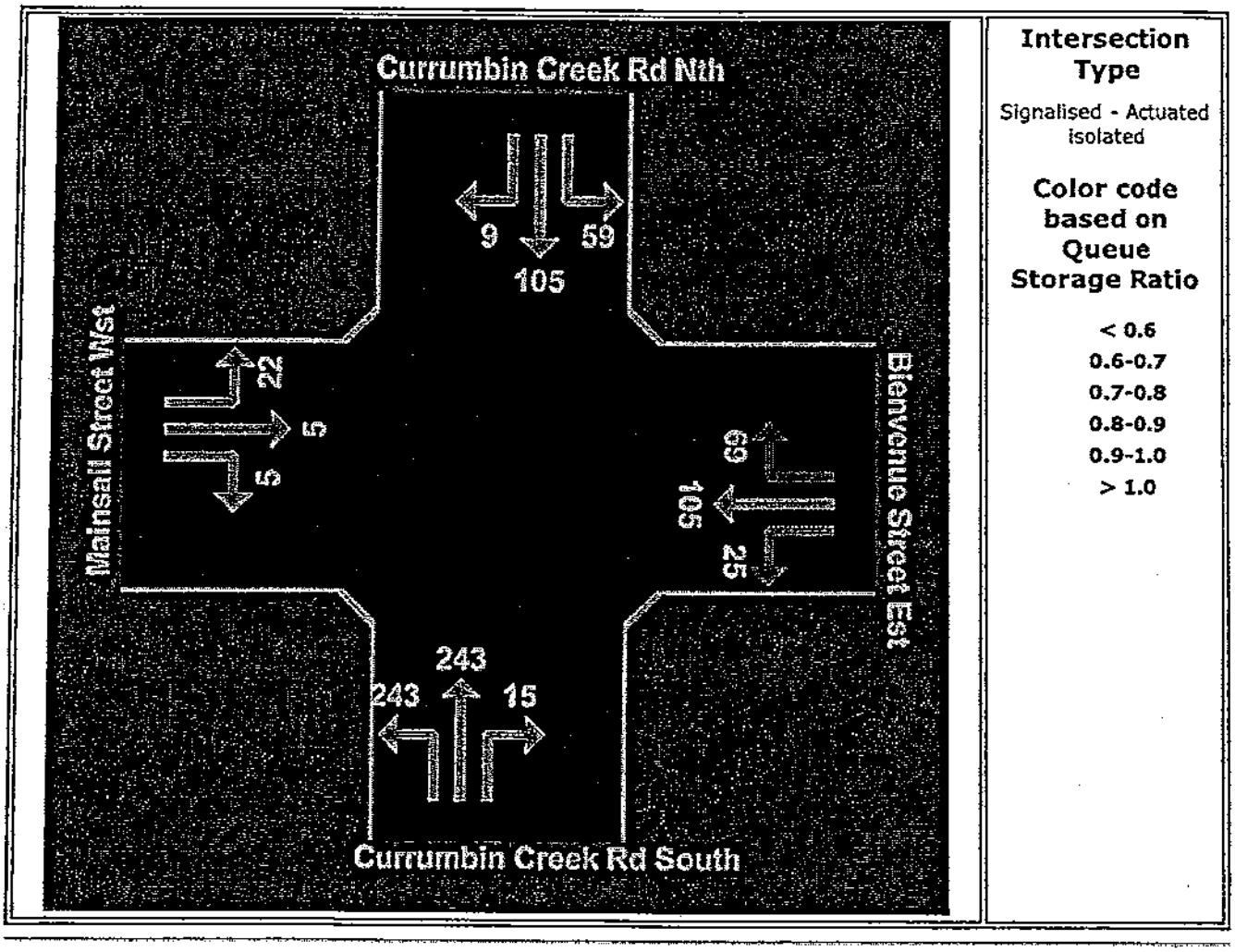
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Existing AM 2009, no development)



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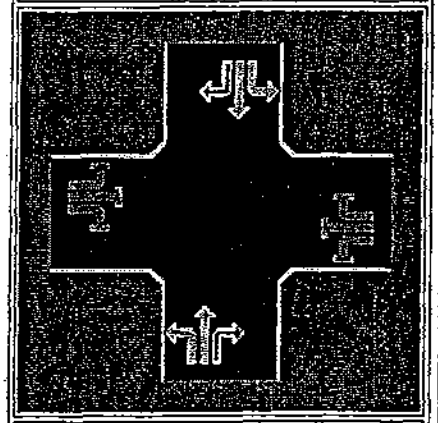
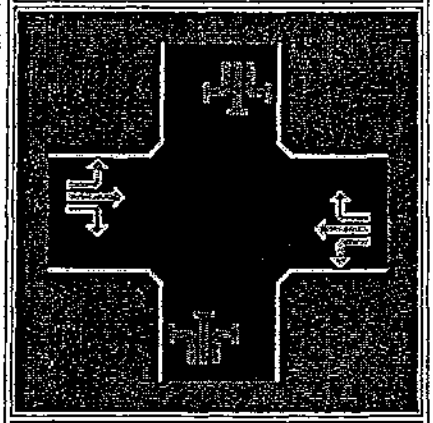
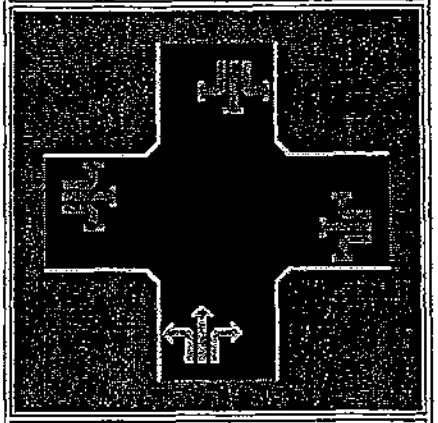
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Phasing

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aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Existing AM 2009 +development

C = **117** seconds
Cycle Time Option: **Program calculated cycle time**
Phase times determined by the program.

Phase G	Phase H	Phase I
		
G = **33** seconds G + I = **39** seconds (G + I)/C = **33.3 %**	G = **50** seconds G + I = **56** seconds (G + I)/C = **47.9 %**	G = **16** seconds G + I = **22** seconds (G + I)/C = **18.8 %**

Normal Vehicle	Permitted/Opposed	Stopped Vehicle
Slip-Lane	Opposed Slip-Lane	Continuous
Pedestrian	Turn On Red	Dummy

C	Cycle Time
G	Green Time
I	Intergreen Time (yellow plus all-red)
(G + I)/C	Phase time as a percentage of cycle

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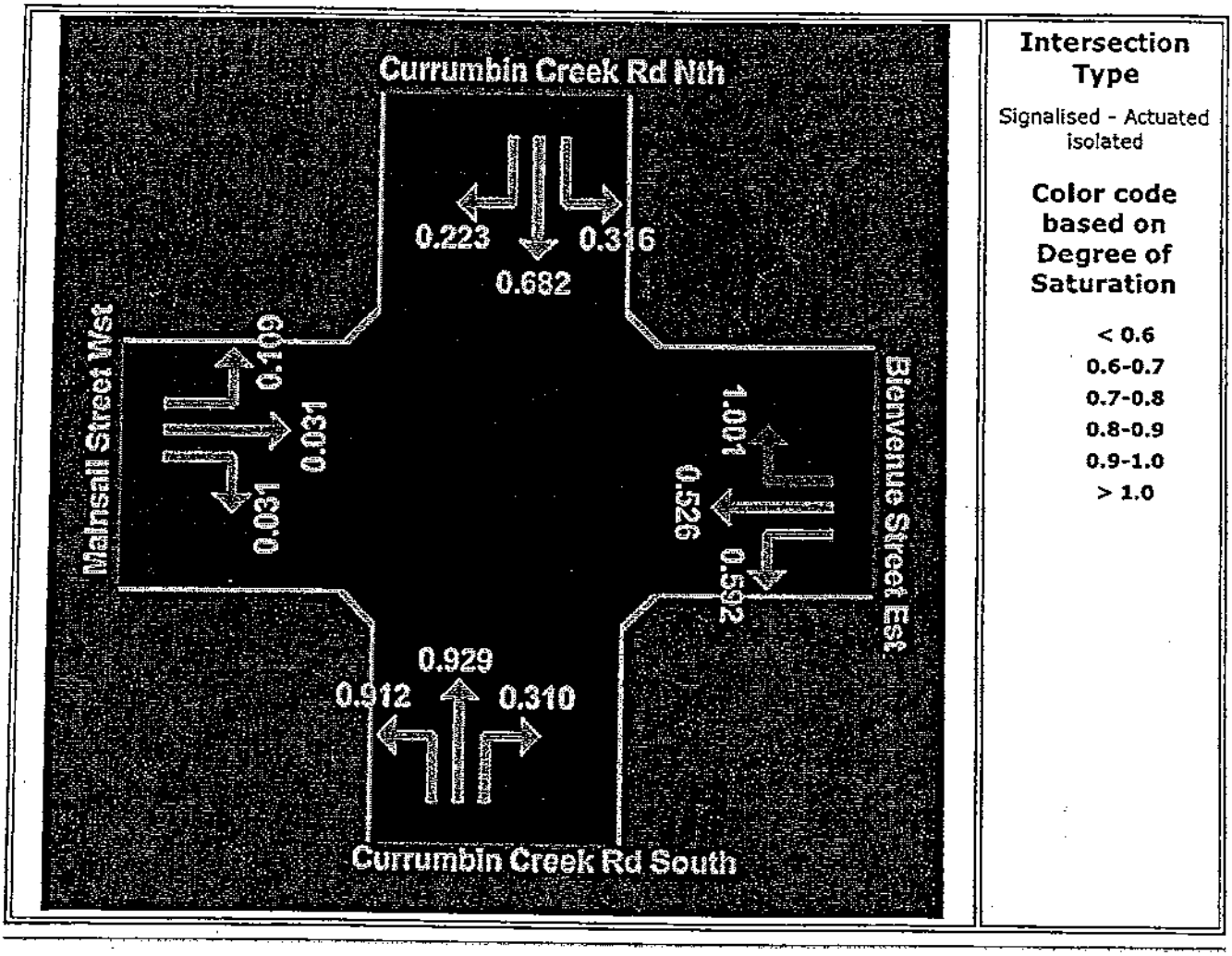
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Degree of Saturation

akcelik & associates
aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Existing AM 2009 +development



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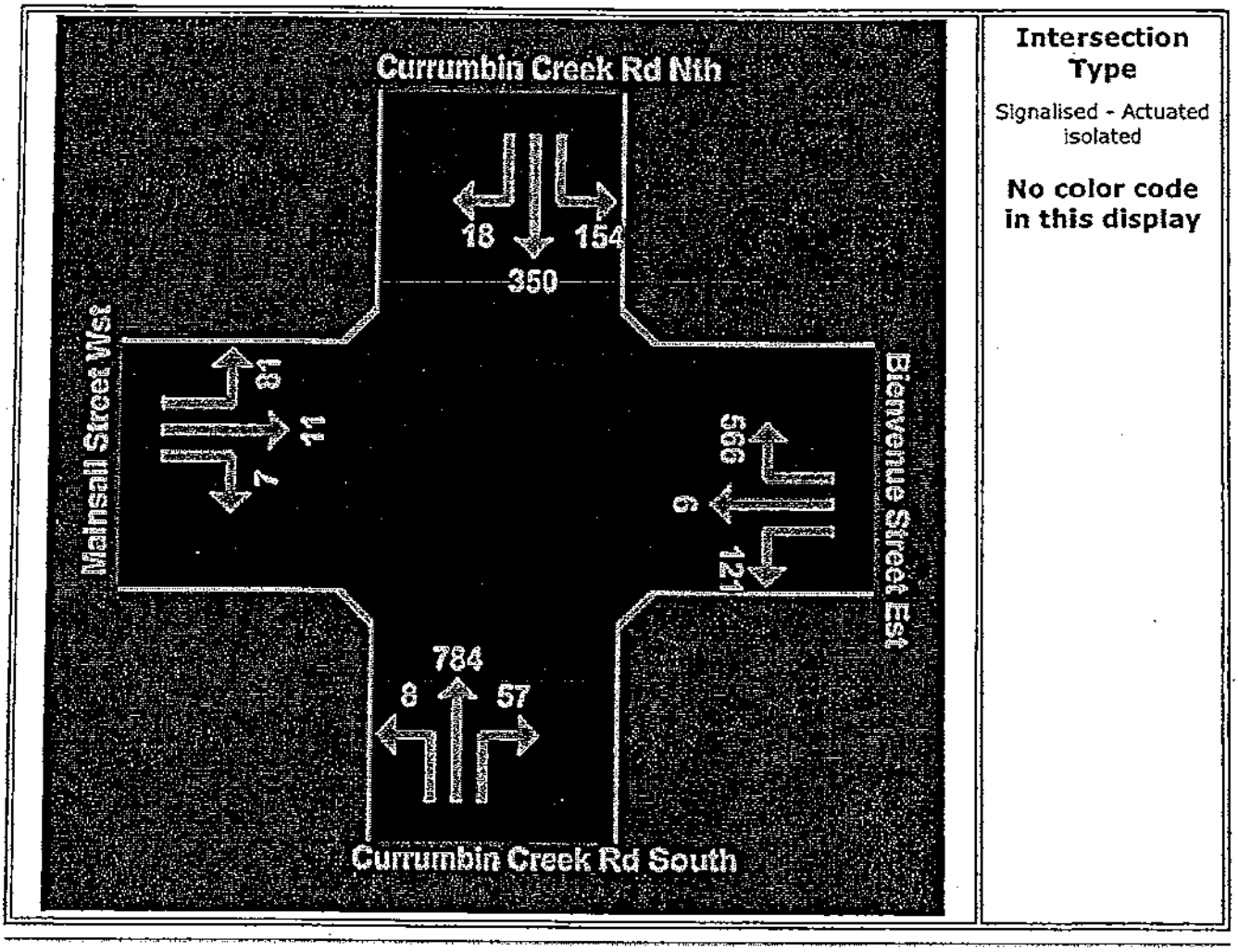
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Existing AM 2009 +development



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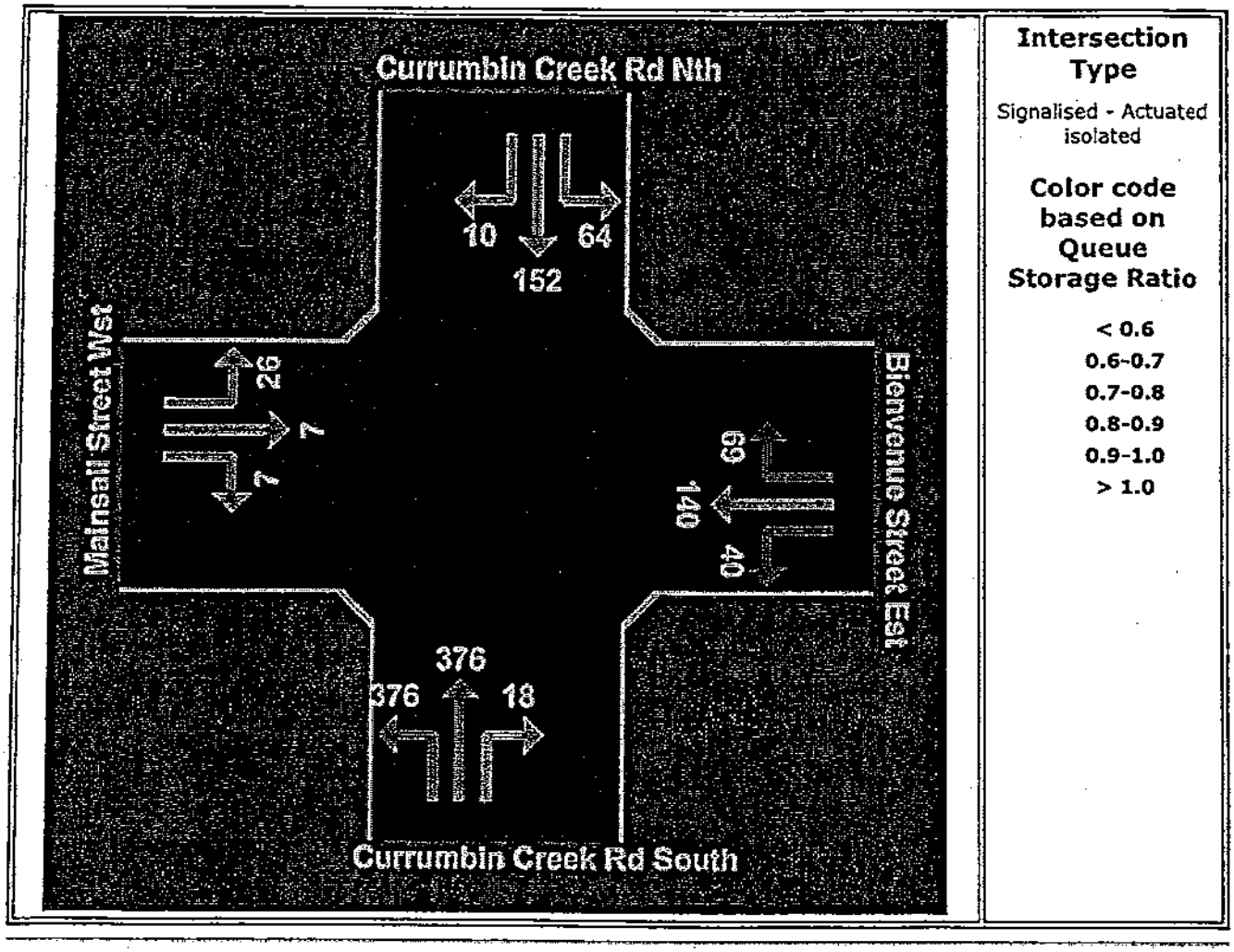
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Existing AM 2009 +development



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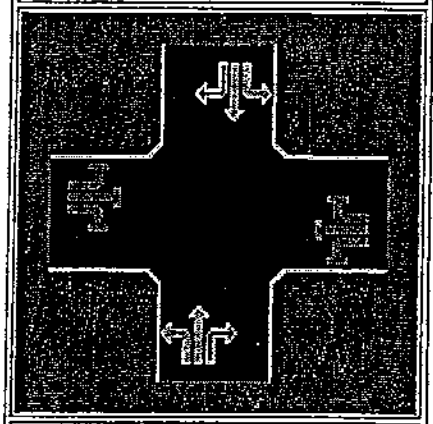
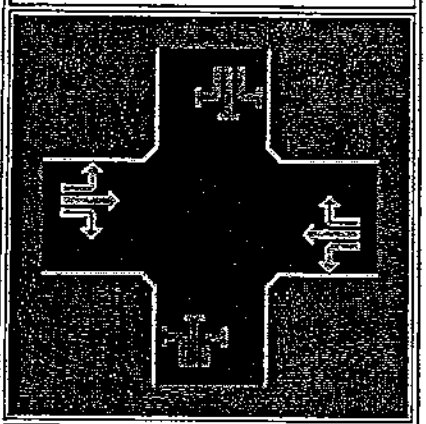
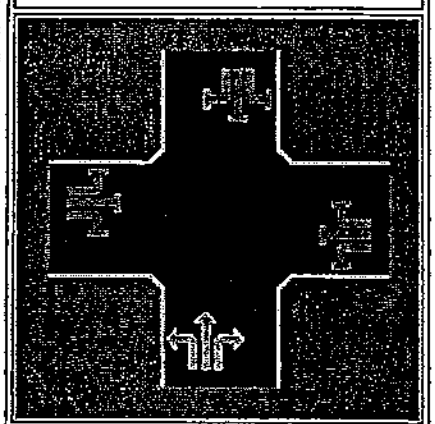
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Phasing

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aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Existing PM 2009, no development)

C = **136** seconds
Cycle Time Option: **Program calculated cycle time**
Phase times determined by the program.

Phase G	Phase H	Phase I
		
G = **48** seconds G + I = **54** seconds (G + I)/C = **39.7** %	G = **50** seconds G + I = **56** seconds (G + I)/C = **41.2** %	G = **20** seconds G + I = **26** seconds (G + I)/C = **19.1** %

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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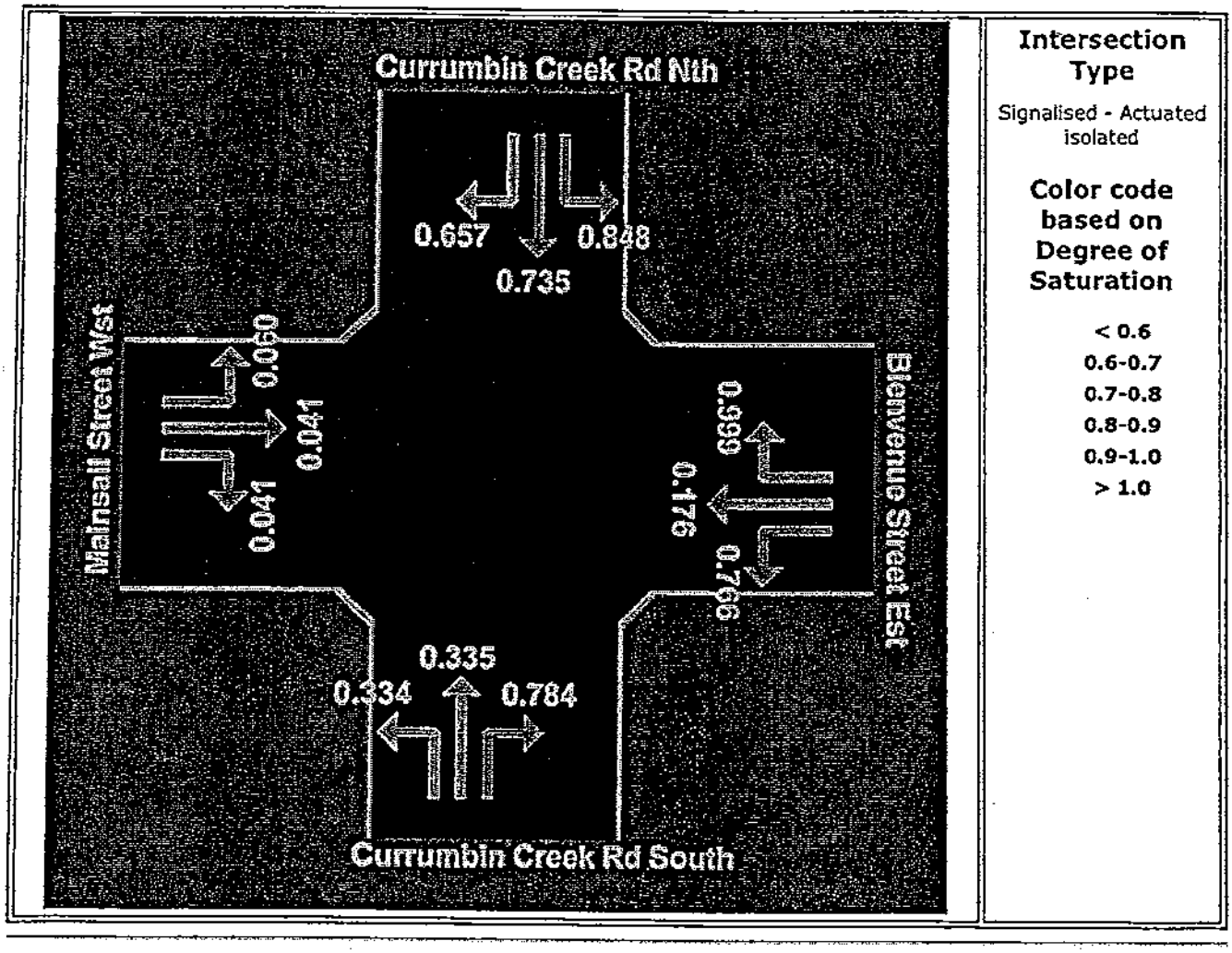
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Degree of Saturation

akcelik & associates
aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Existing PM 2009, no development)



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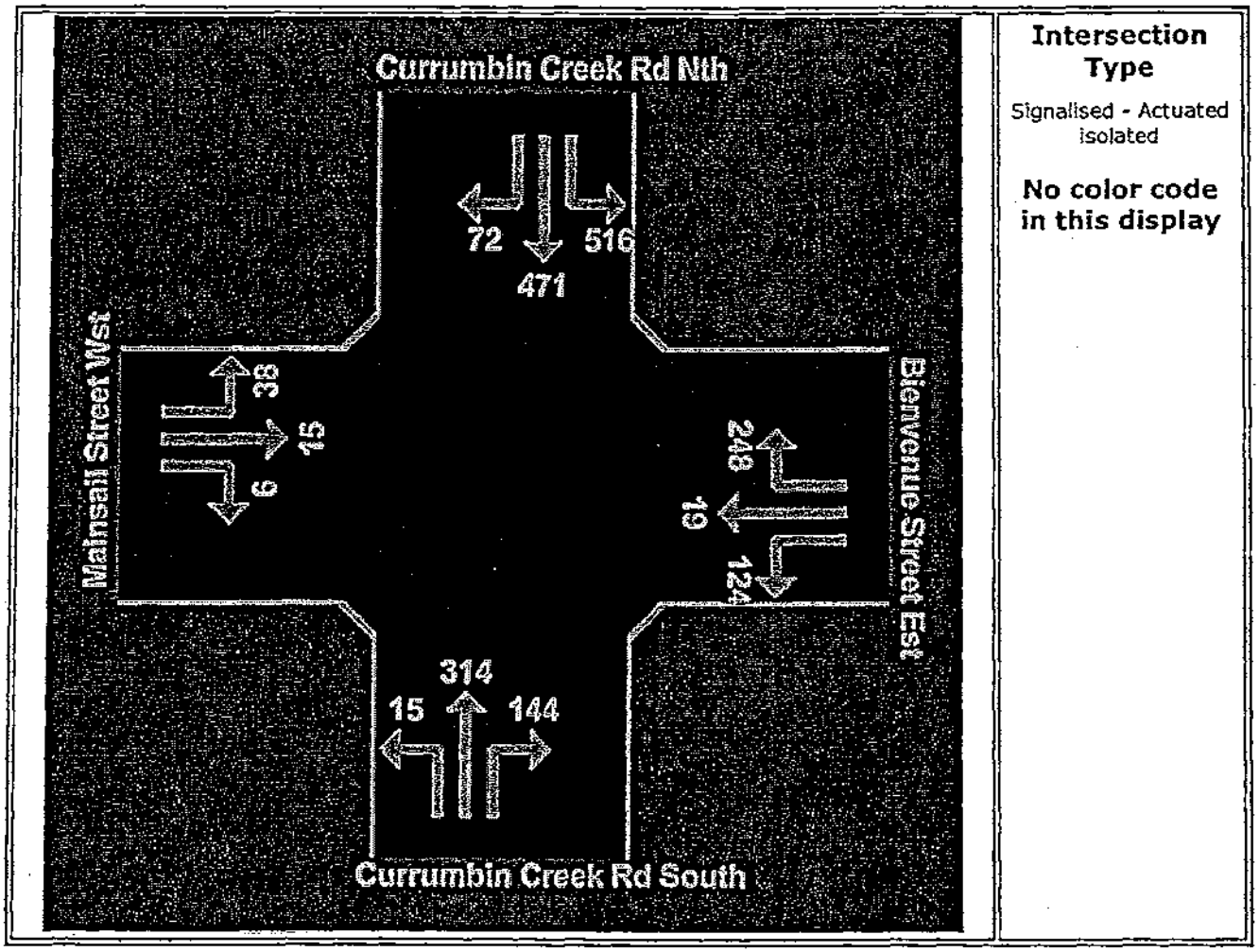
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Existing PM 2009, no development)



Intersection Type

Signalised - Actuated isolated

No color code in this display

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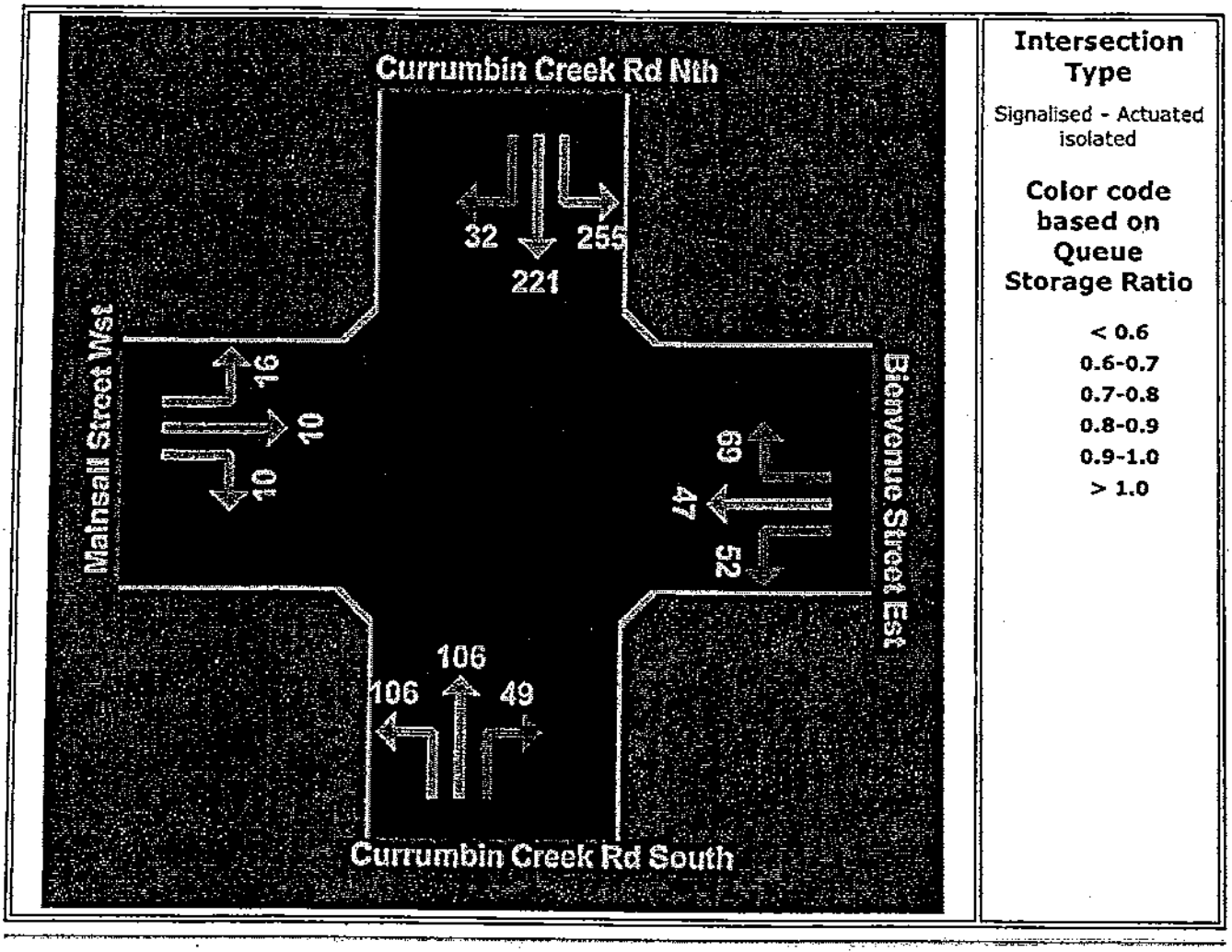
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Existing PM 2009, no development)



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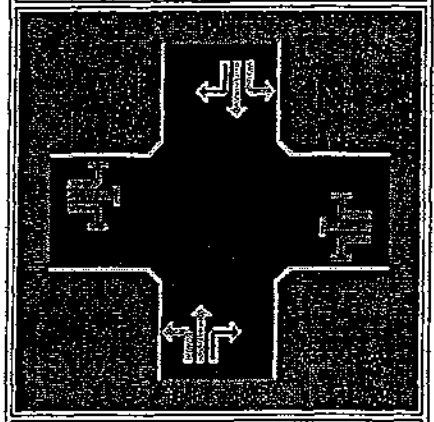
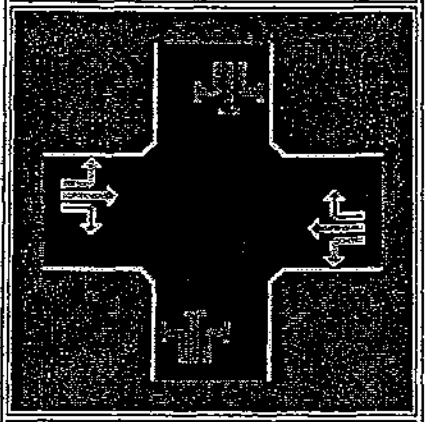
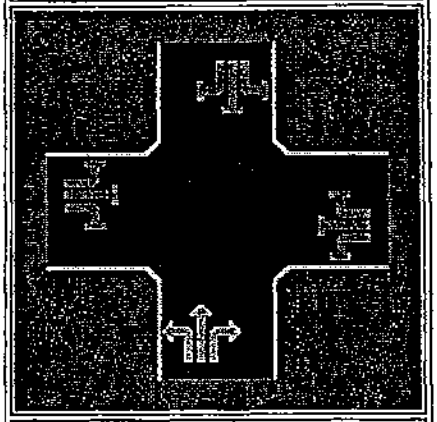
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Phasing

akcelik & associates
aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Existing PM 2009 +development

C = **138** seconds
Cycle Time Option: **Program calculated cycle time**
Phase times determined by the program.

Phase G	Phase H	Phase I
		
G = **50** seconds G + I = **56** seconds (G + I)/C = **40.6** %	G = **50** seconds G + I = **56** seconds (G + I)/C = **40.6** %	G = **20** seconds G + I = **26** seconds (G + I)/C = **18.8** %

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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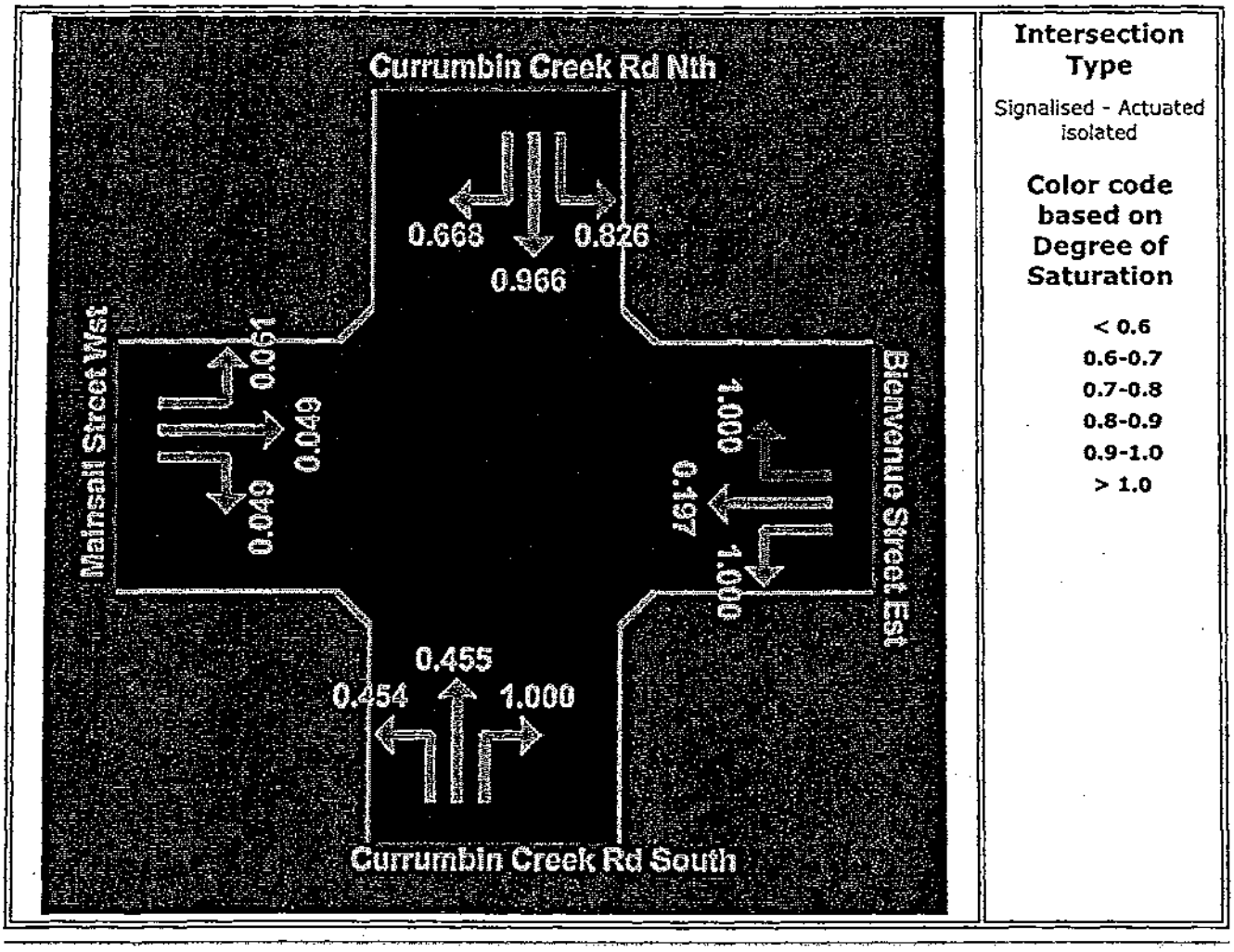
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Existing PM 2009 +development



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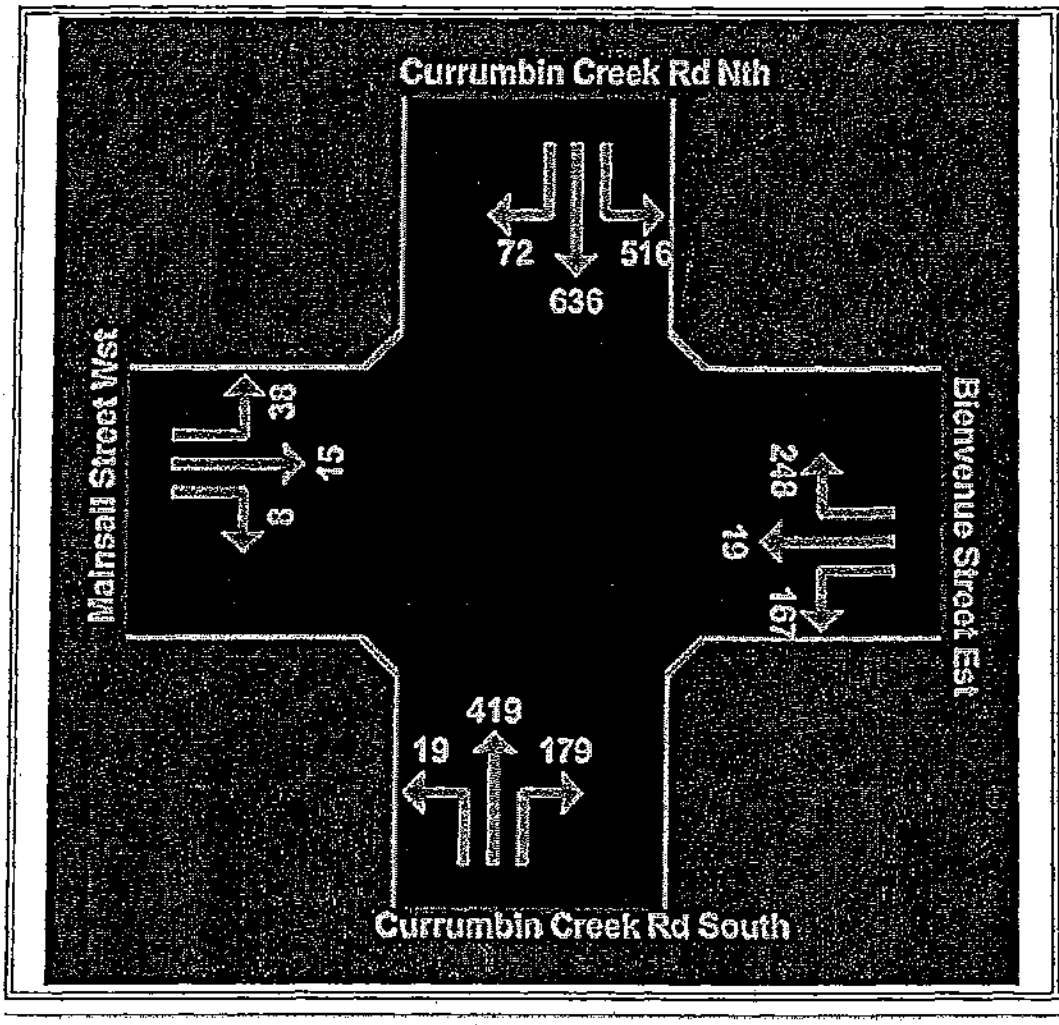
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Existing PM 2009 +development



Intersection Type

Signalised - Actuated isolated

No color code in this display

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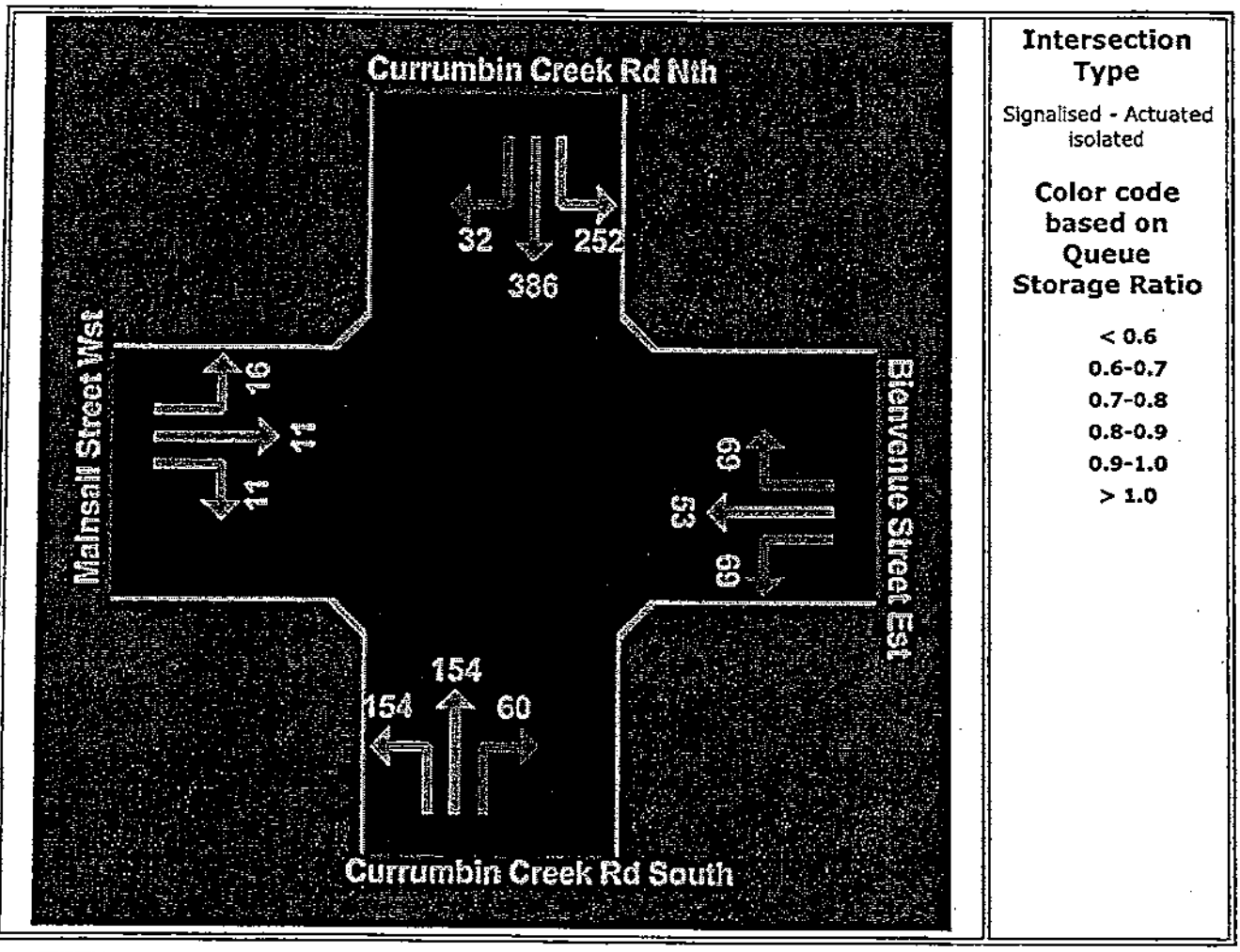
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Existing PM 2009 +development



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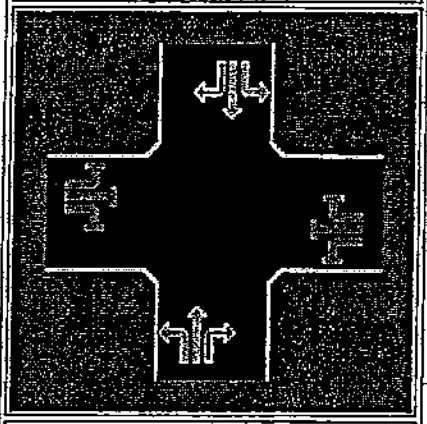
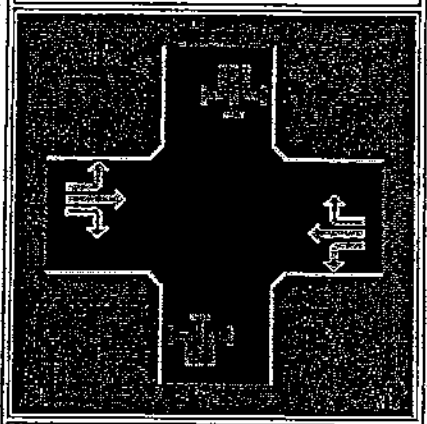
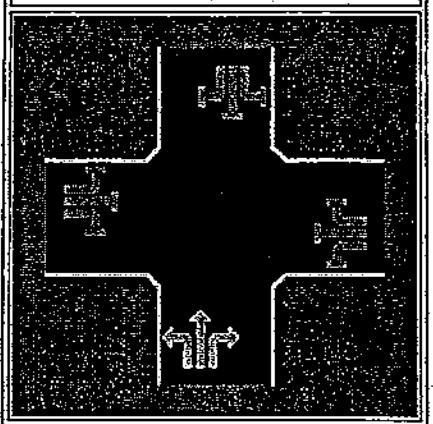
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Phasing

akcelik & associates
aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Existing AM 2019 no development

C = **127** seconds
Cycle Time Option: **Program calculated cycle time**
Phase times determined by the program.

Phase G	Phase H	Phase I
		
G = **39** seconds G + I = **45** seconds (G + I)/C = **35.4 %**	G = **50** seconds G + I = **56** seconds (G + I)/C = **44.1 %**	G = **20** seconds G + I = **26** seconds (G + I)/C = **20.5 %**

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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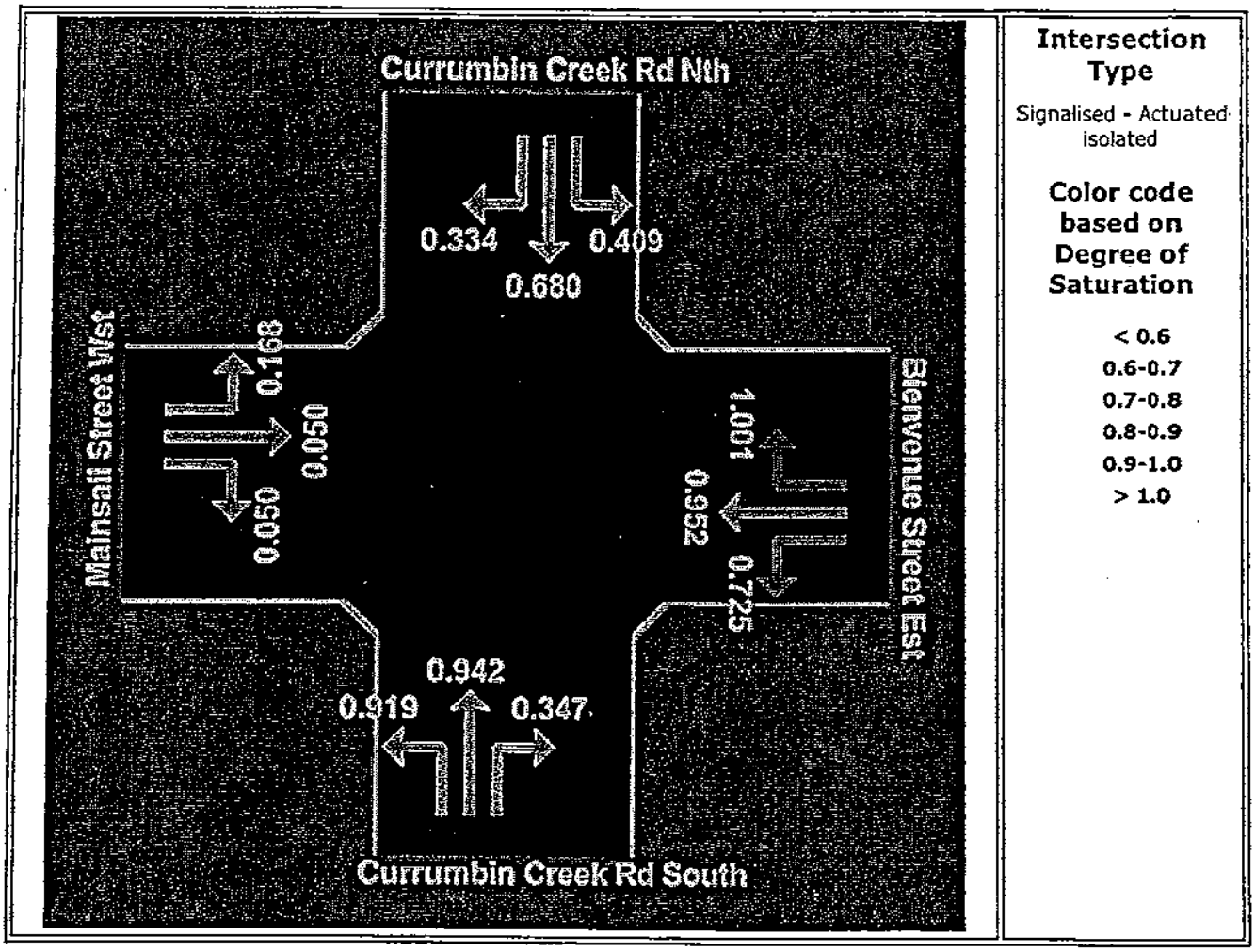
Generated 29/03/2004 10:43:51 AM

Degree of Saturation

akcelik & associates
aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Existing AM 2019 no development



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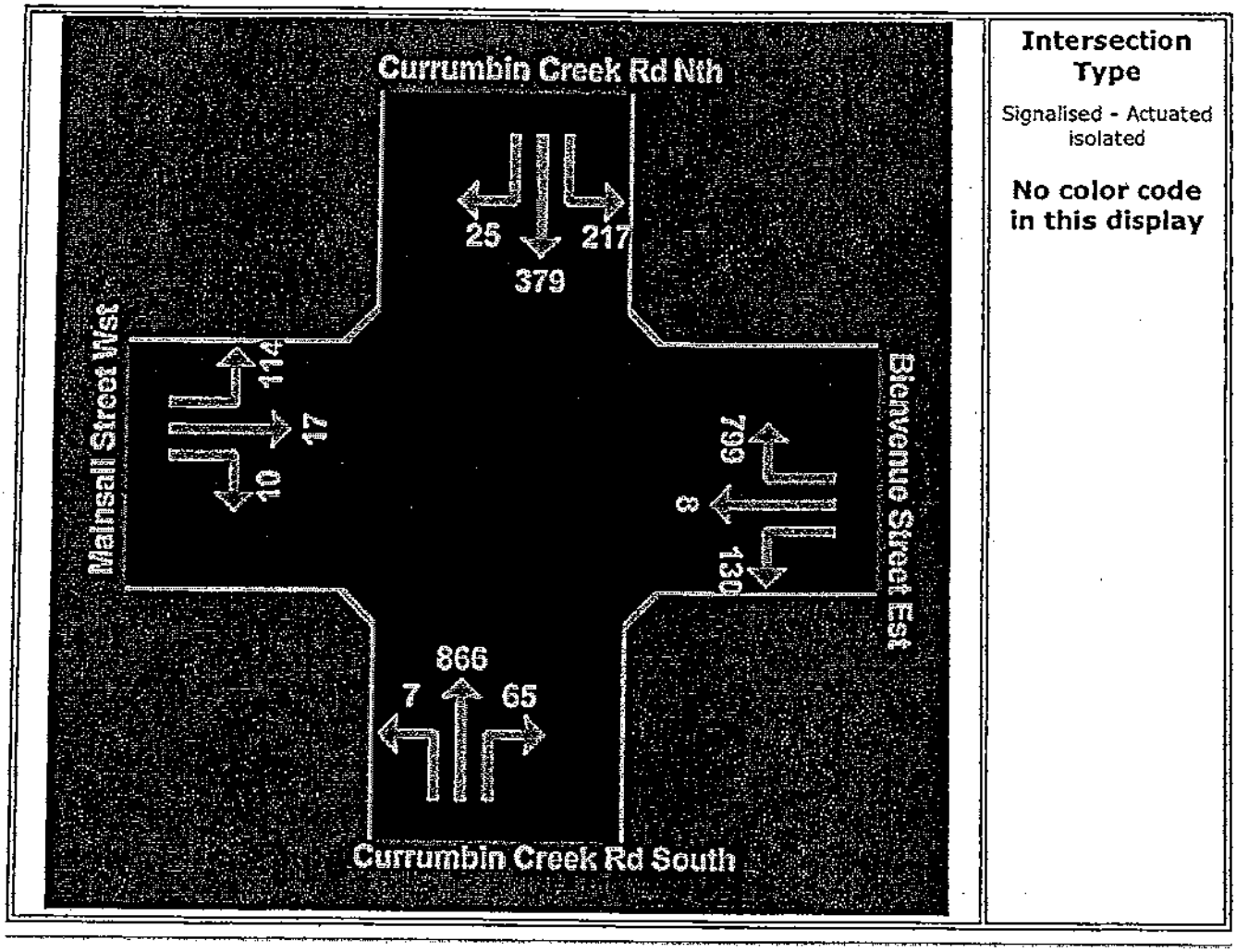
Generated 29/03/2004 10:43:59 AM

Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Existing AM 2019 no development



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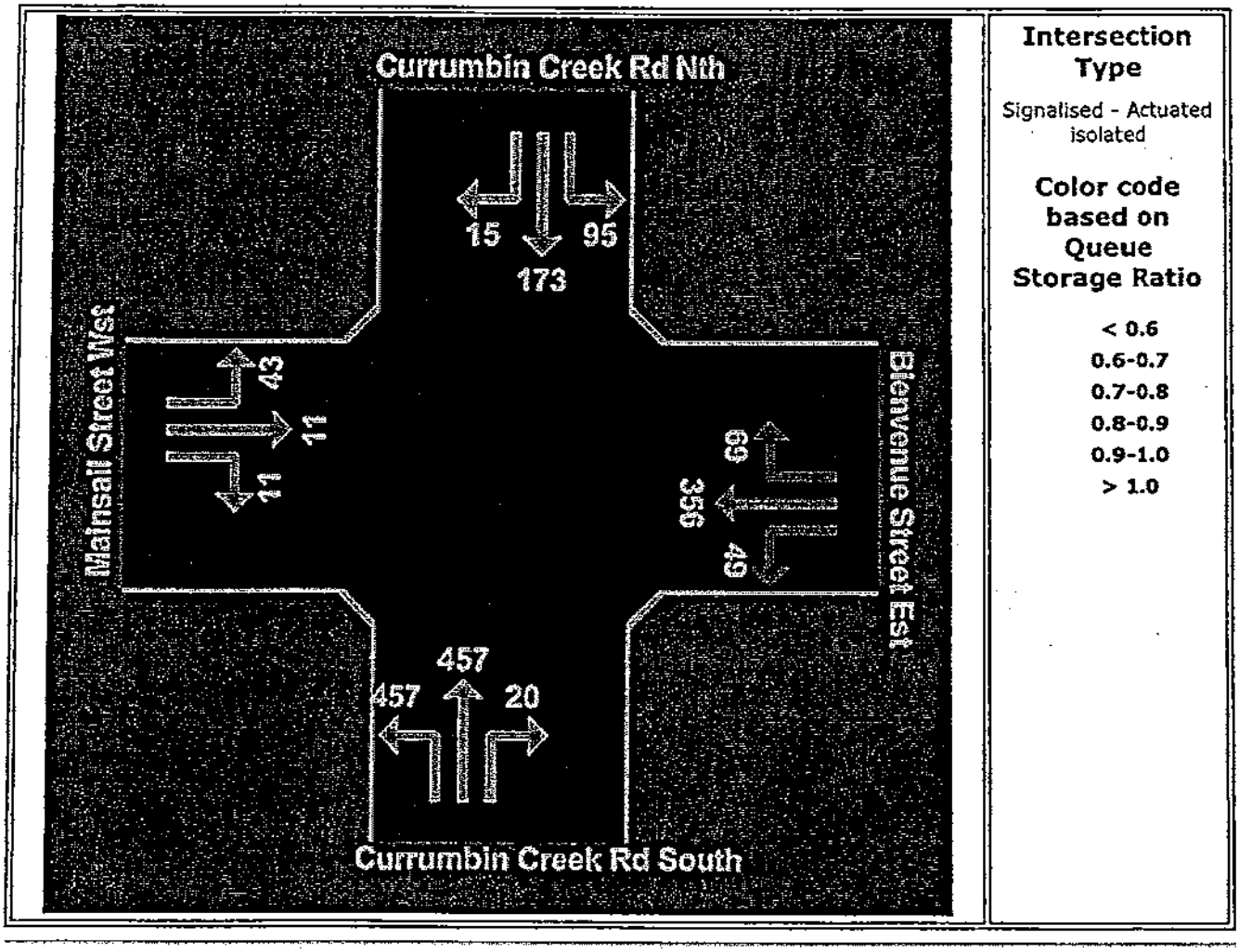
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Existing AM 2019 no development



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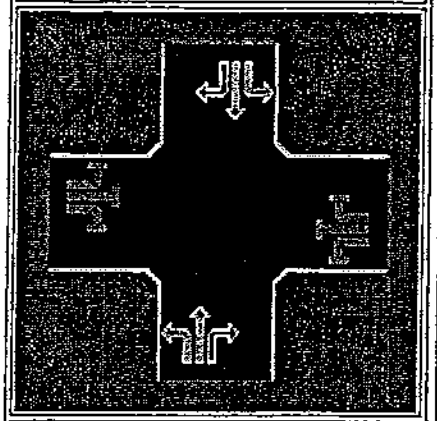
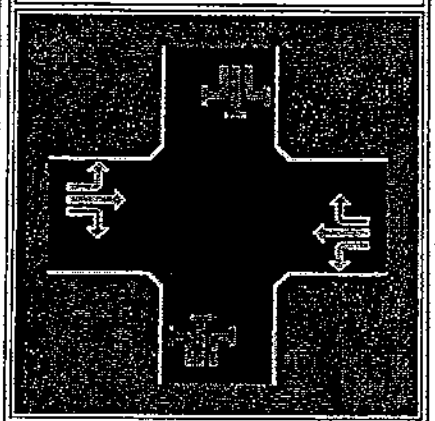
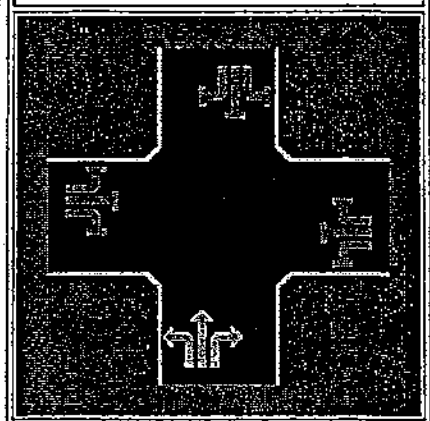
Generated 30/03/2004 11:31:50 AM

Phasing

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aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Existing AM 2019 with development

C = **138** seconds
Cycle Time Option: **Program calculated cycle time**
Phase times determined by the program.

Phase G	Phase H	Phase I
		
G = **50** seconds G + I = **56** seconds (G + I)/C = **40.6 %**	G = **50** seconds G + I = **56** seconds (G + I)/C = **40.6 %**	G = **20** seconds G + I = **26** seconds (G + I)/C = **18.8 %**

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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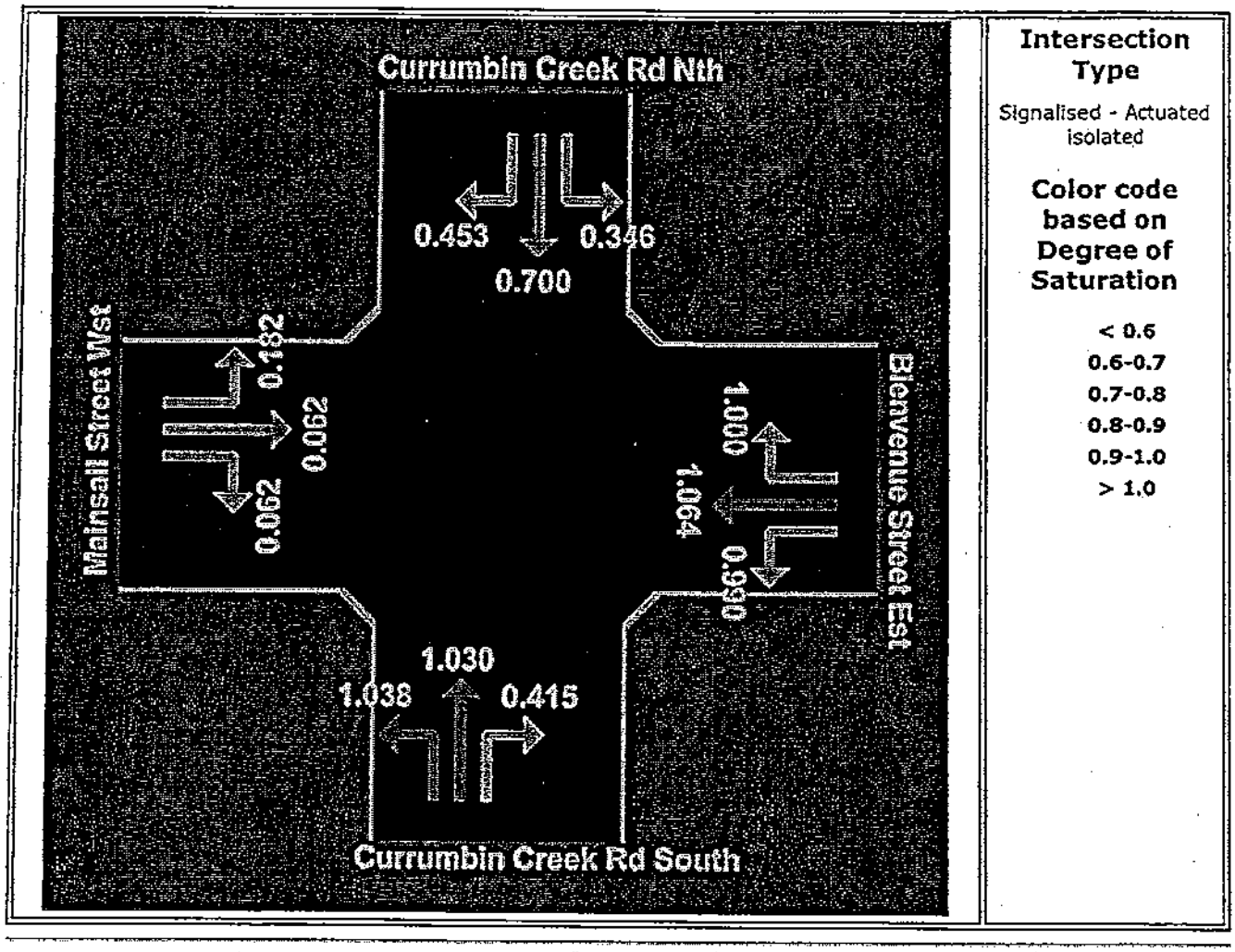
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Existing AM 2019 with development



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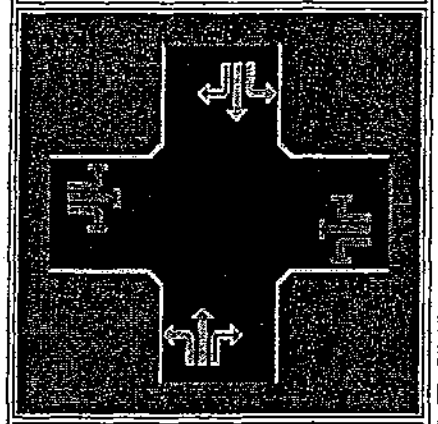
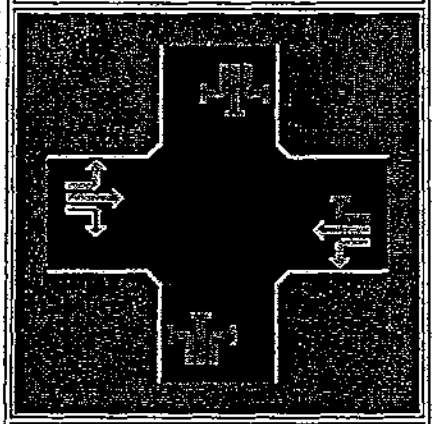
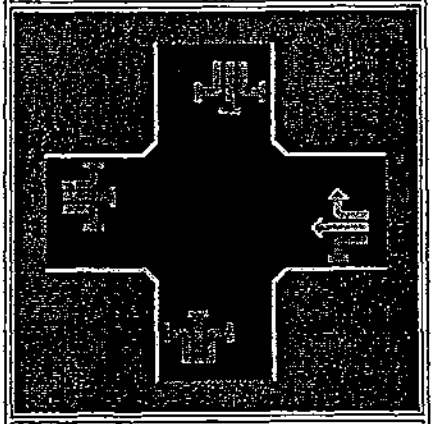
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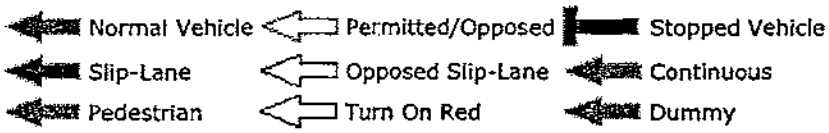
Phasing

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Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2009, +Develop

C = **150** seconds
Cycle Time Option: **Optimum cycle time (Minimum Delay)**
Phase times determined by the program.

Phase G	Phase K	Phase J
		
G = **74** seconds G + I = **80** seconds (G + I)/C = **53.3 %**	G = **13** seconds G + I = **19** seconds (G + I)/C = **12.7 %**	G = **45** seconds G + I = **51** seconds (G + I)/C = **34.0 %**



C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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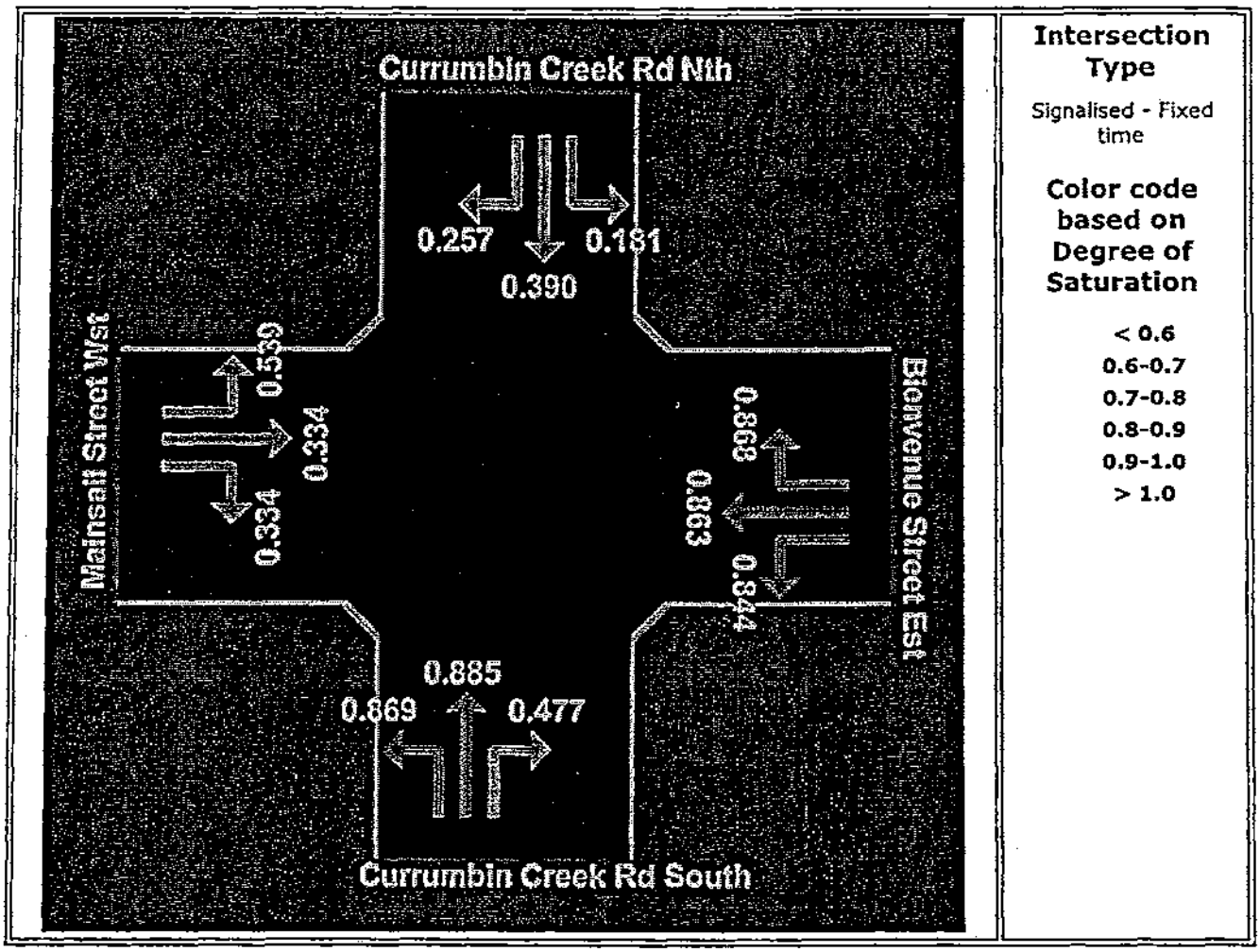
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2009, +Develop



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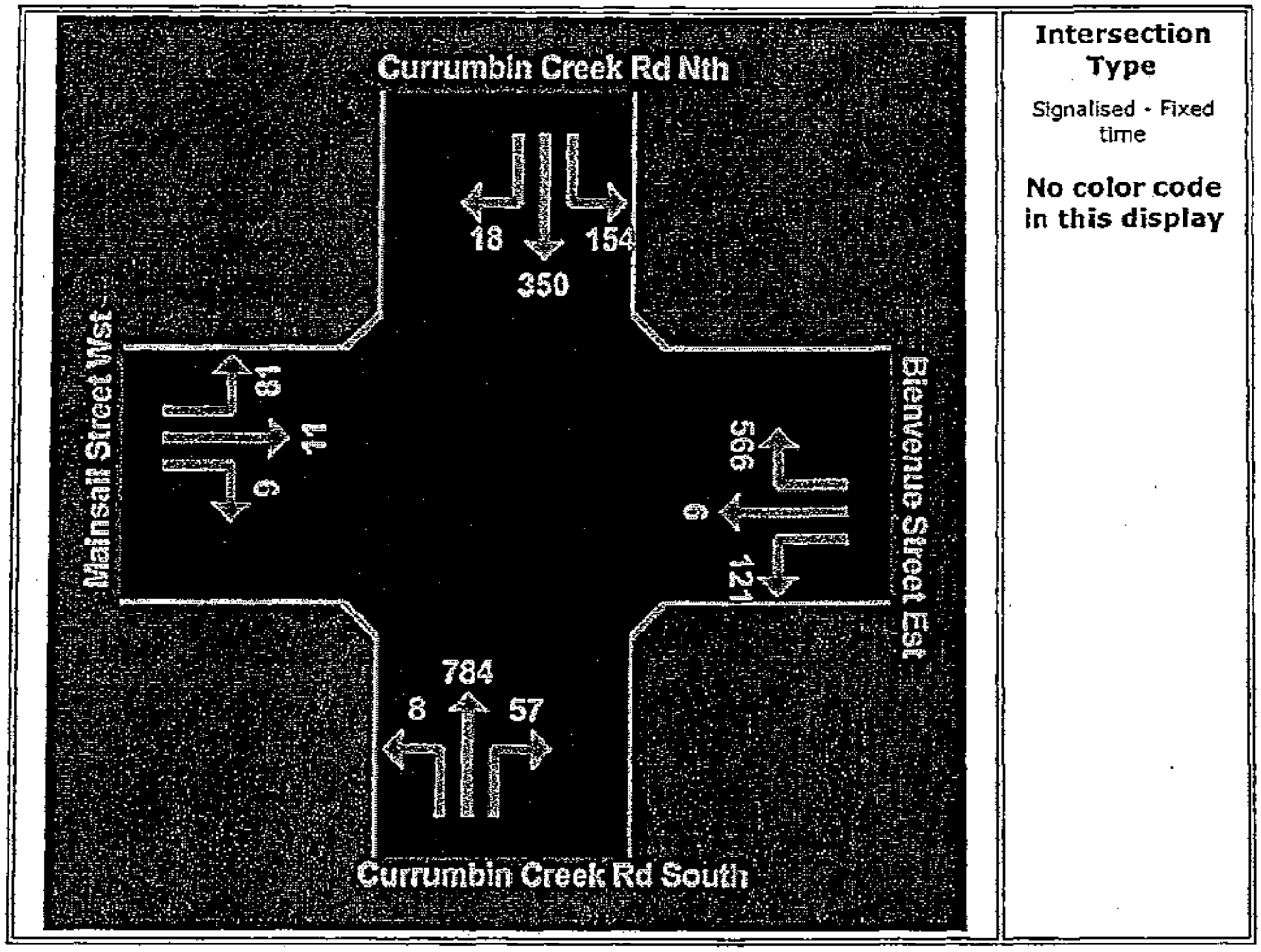
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Input Volumes

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Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2009, +Develop



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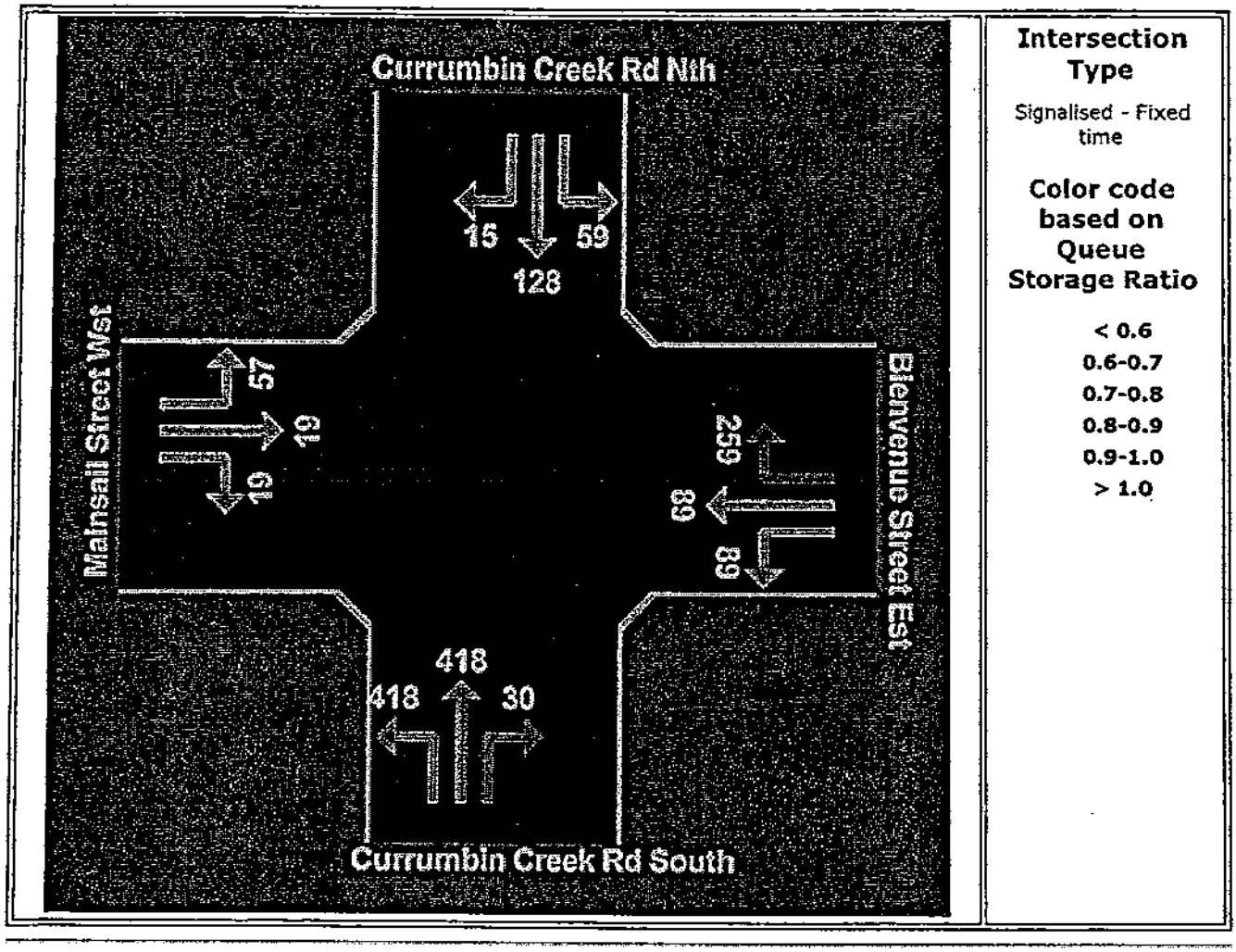
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2009, +Develop



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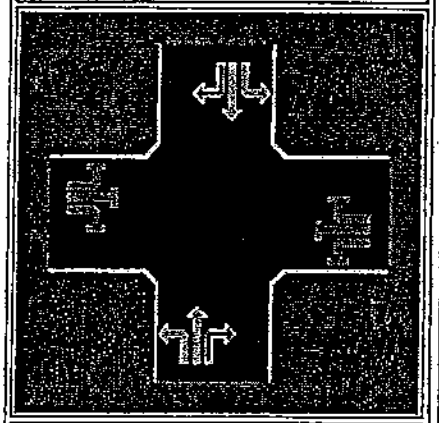
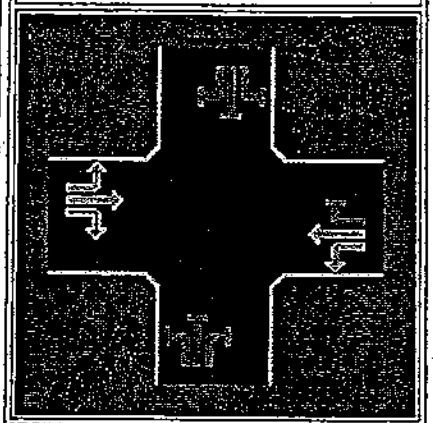
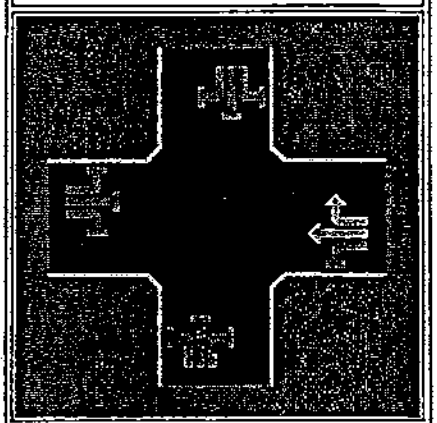
Generated 30/03/2004 3:19:51 PM

Phasing

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Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2009, +Develop

C = **120** seconds
Cycle Time Option: **Optimum cycle time (Minimum Delay)**
Phase times determined by the program.

Phase G	Phase K	Phase J
		
G = **79** seconds G + I = **85** seconds (G + I)/C = **70.8 %**	G = **13** seconds G + I = **19** seconds (G + I)/C = **15.8 %**	G = **10** seconds G + I = **16** seconds (G + I)/C = **13.3 %**

Normal Vehicle	Permitted/Opposed	Stopped Vehicle
Slip-Lane	Opposed Slip-Lane	Continuous
Pedestrian	Turn On Red	Dummy

C	Cycle Time
G	Green Time
I	Intergreen Time (yellow plus all-red)
(G + I)/C	Phase time as a percentage of cycle

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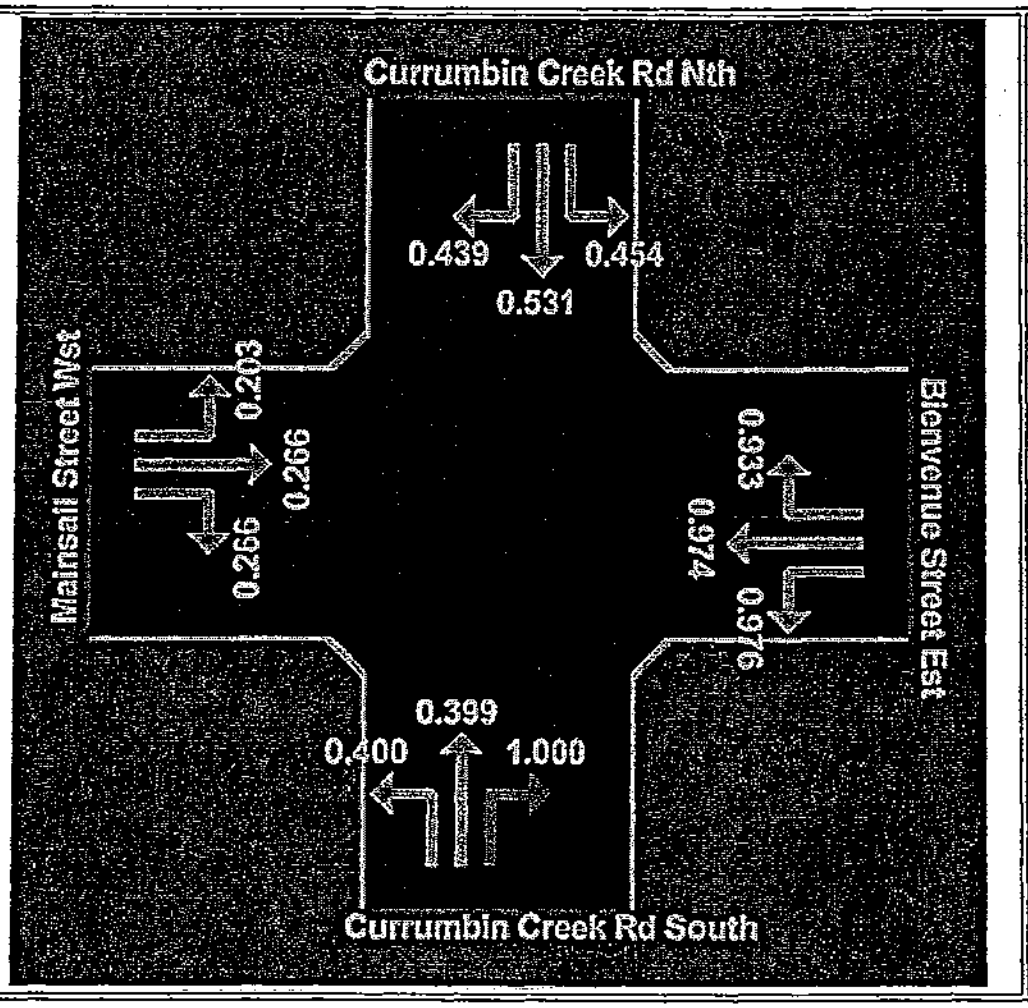
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Degree of Saturation

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Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2009, +Develop



Intersection Type

Signalised - Fixed time

Color code based on Degree of Saturation

< 0.6
0.6-0.7
0.7-0.8
0.8-0.9
0.9-1.0
> 1.0

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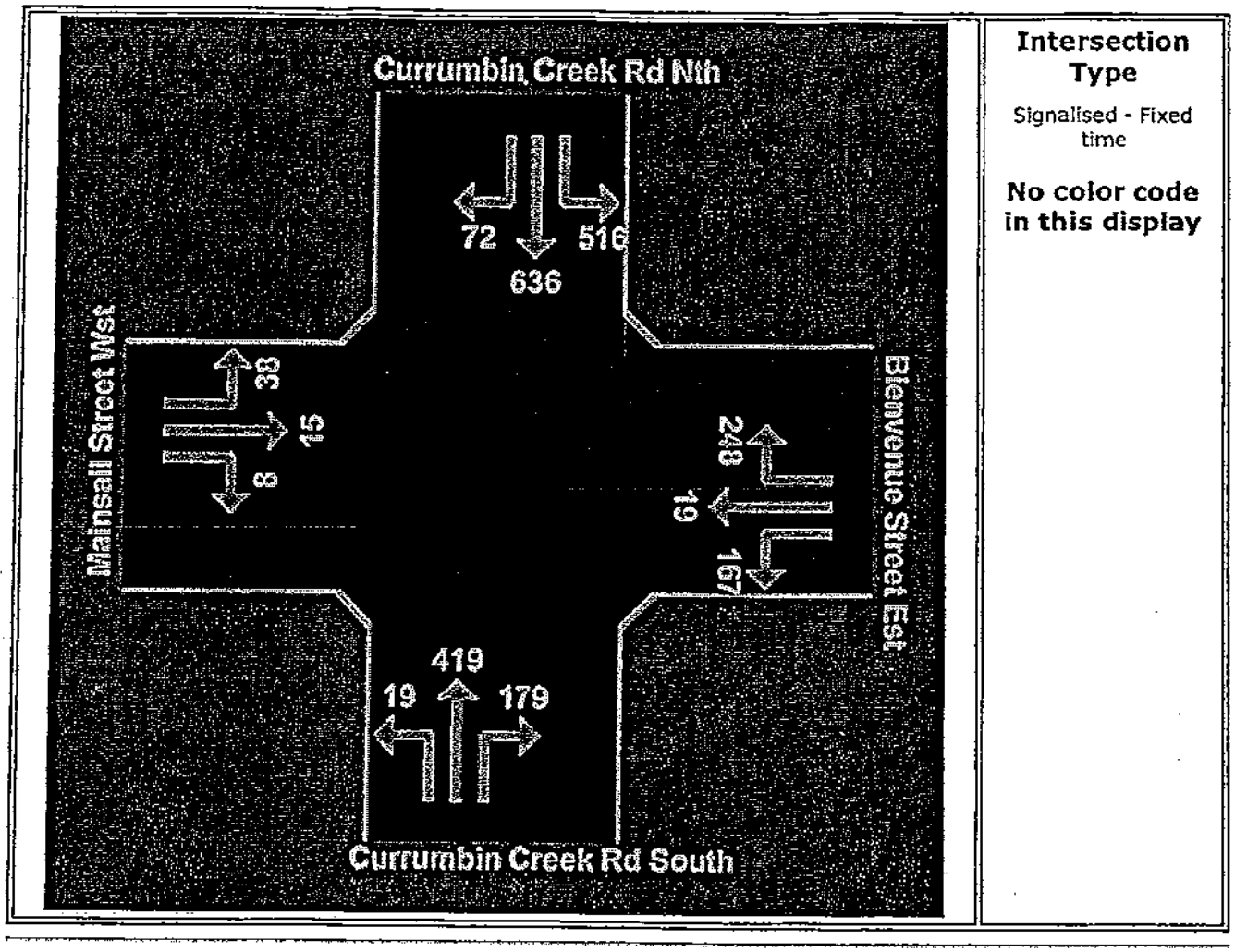
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Input Volumes

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aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2009, +Develop



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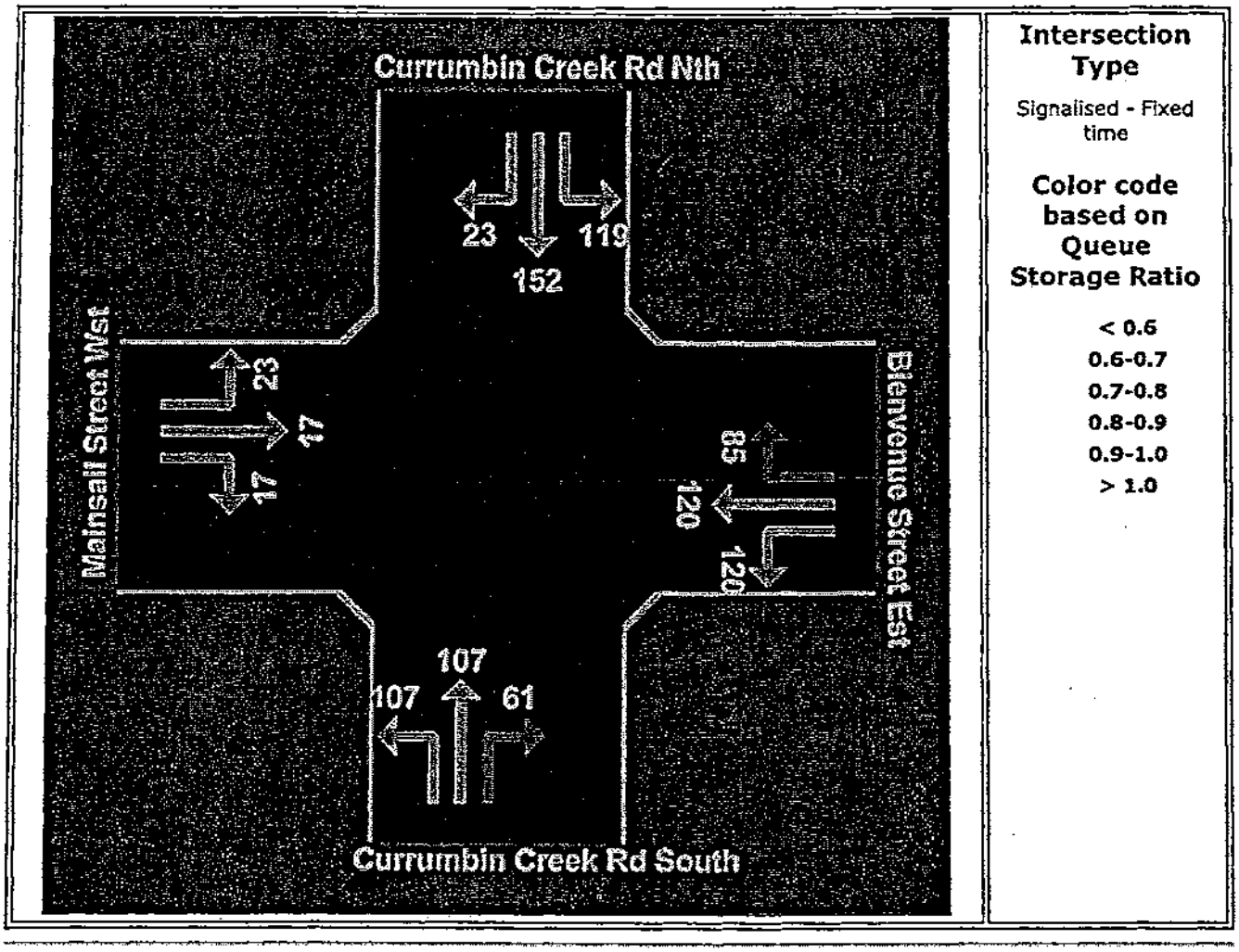
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Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2009, +Develop



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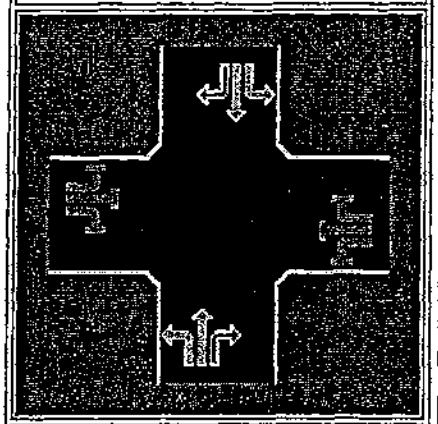
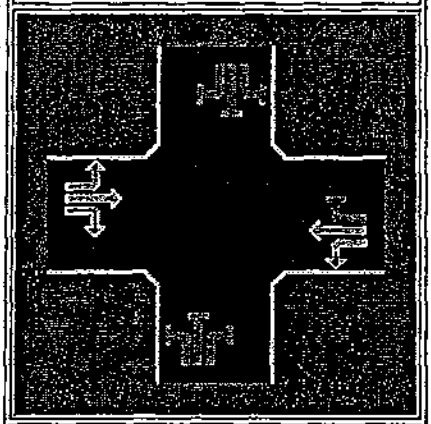
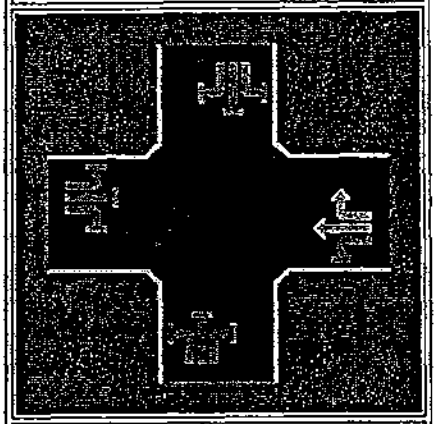
Generated 30/03/2004 3:20:08 PM

Phasing

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aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2019, +Develop

C = **120** seconds
Cycle Time Option: **Optimum cycle time (Minimum Delay)**
Phase times determined by the program.

Phase G	Phase K	Phase J
		
G = **56** seconds G + I = **62** seconds (G + I)/C = **51.7** %	G = **10** seconds G + I = **16** seconds (G + I)/C = **13.3** %	G = **36** seconds G + I = **42** seconds (G + I)/C = **35.0** %

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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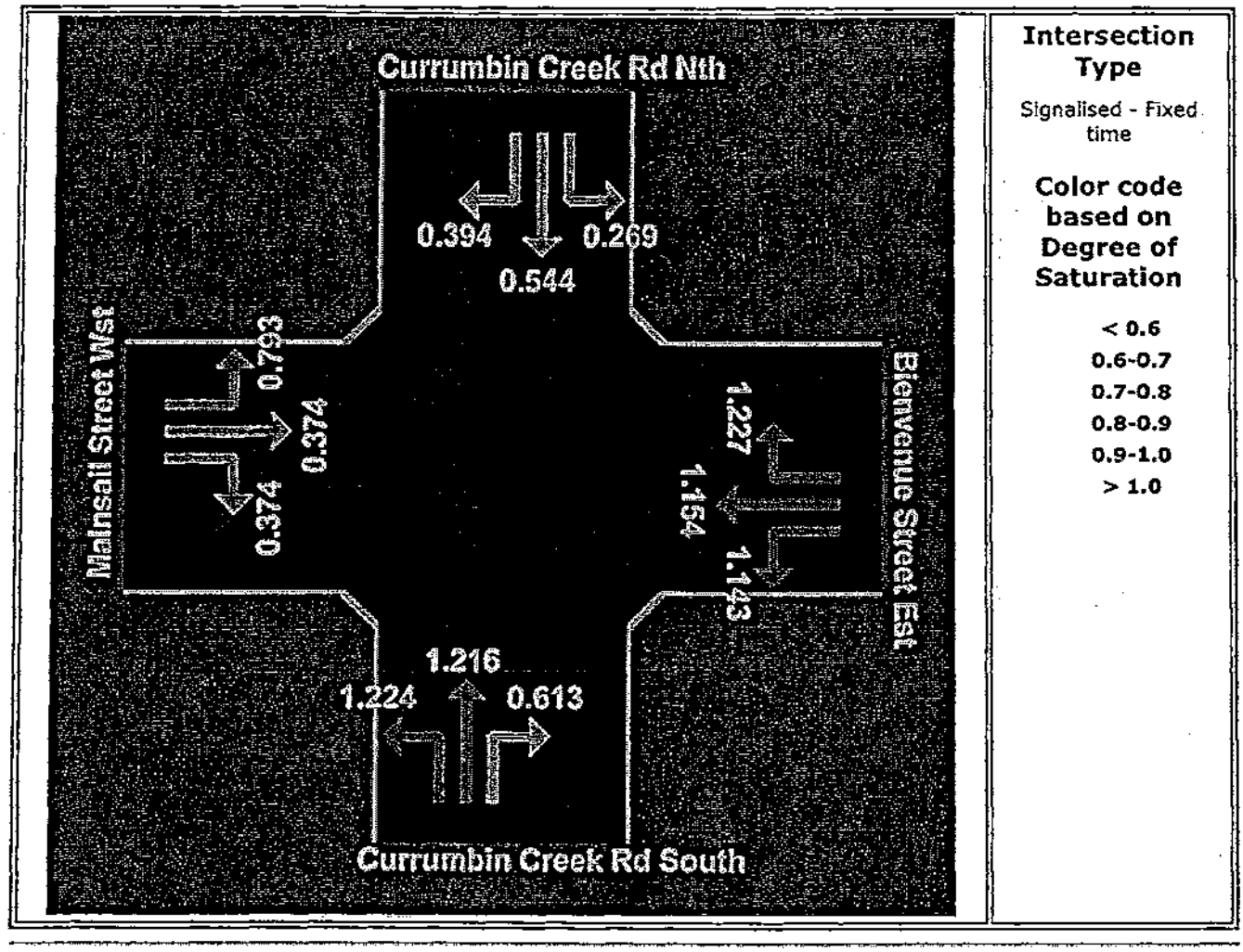
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Degree of Saturation

akcelik & associates
aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2019, +Develop



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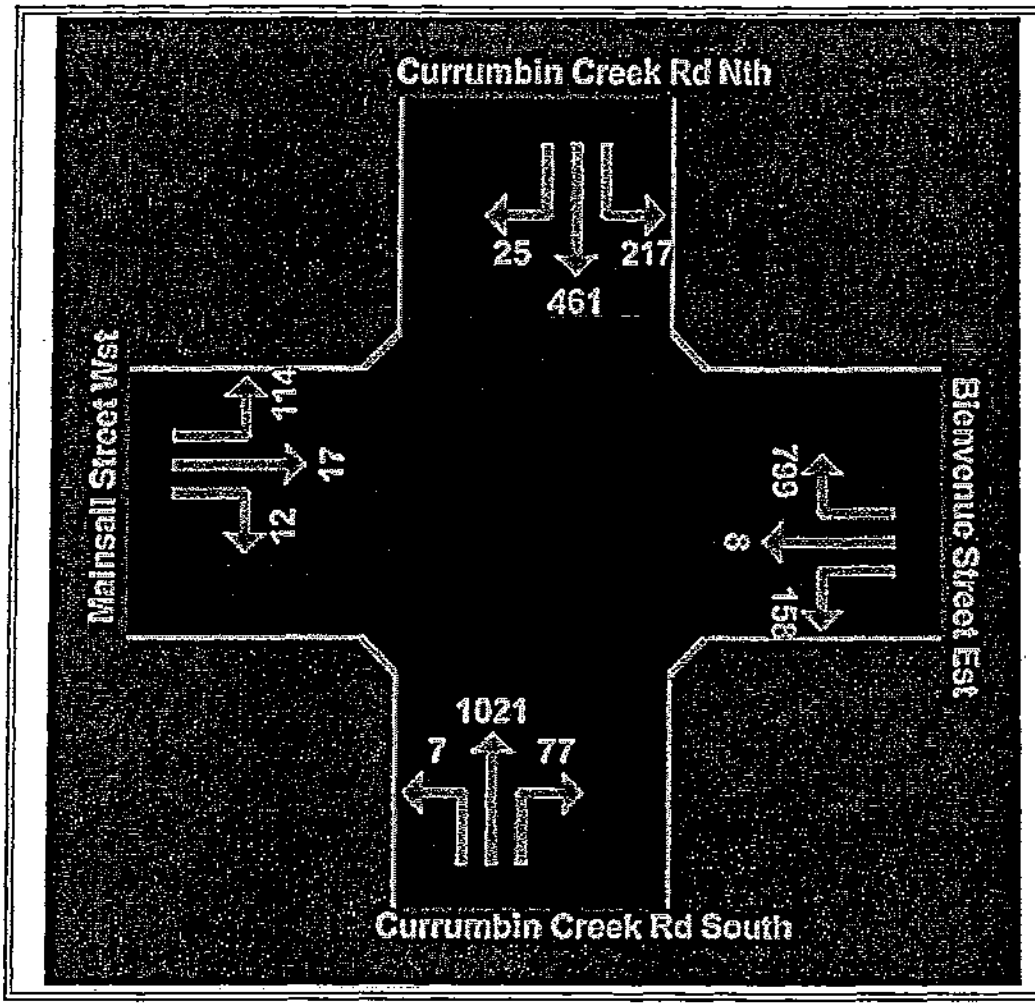
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Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2019, +Develop



Intersection Type

Signalised - Fixed time

No color code in this display

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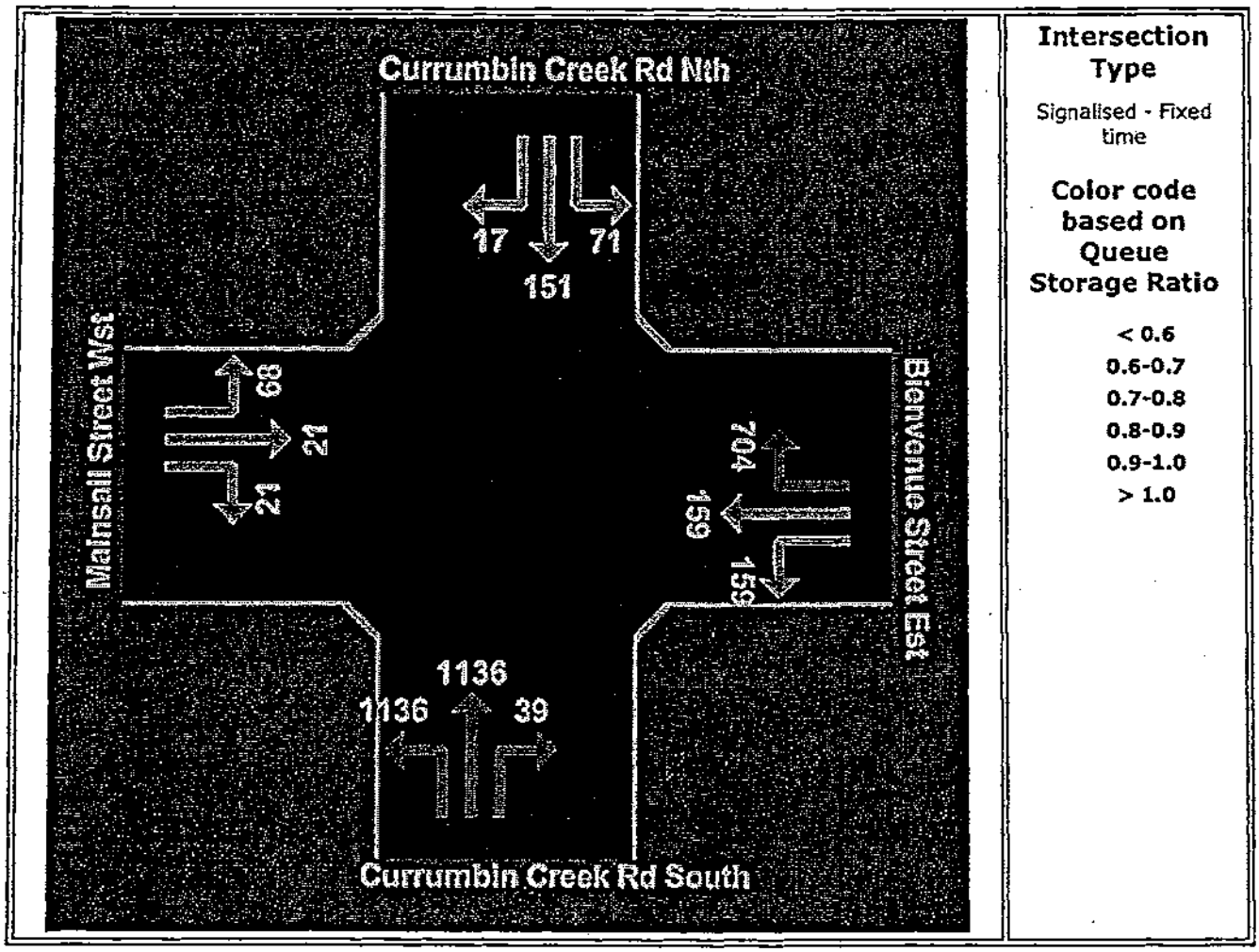
Generated 29/03/2004 10:50:00 AM

Queue Distance

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aaTraffic SIDRA

Largest 95% Back of Queue for any lane used by movement (metres)

Bienvenue St/Currumbin Creek Rd, Mitigation, AM 2019, +Develop



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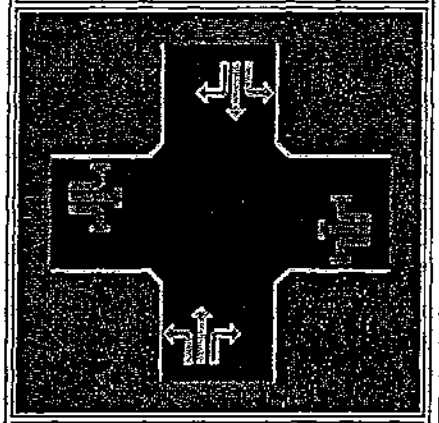
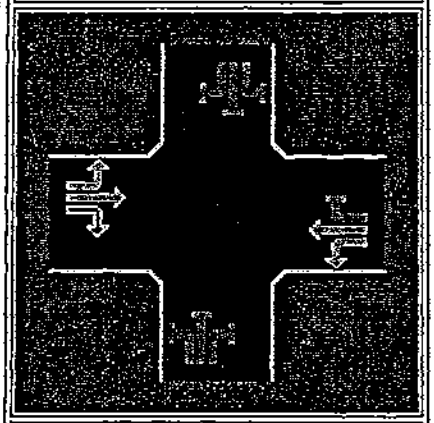
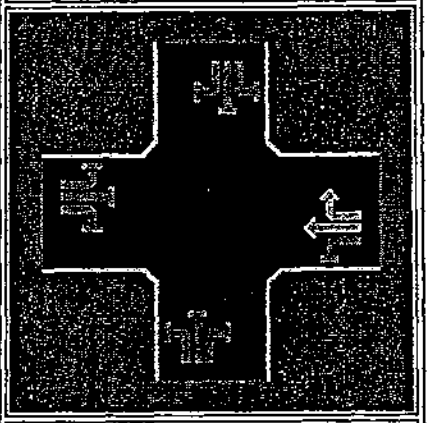
Generated 30/03/2004 3:19:59 PM

Phasing

akcelik & associates
aaTraffic SIDRA

Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2019, +Develop

C = **120** seconds
Cycle Time Option: **Optimum cycle time (Minimum Delay)**
Phase times determined by the program.

Phase G	Phase K	Phase J
		
G = **69** seconds G + I = **75** seconds (G + I)/C = **62.5 %**	G = **17** seconds G + I = **23** seconds (G + I)/C = **19.2 %**	G = **16** seconds G + I = **22** seconds (G + I)/C = **18.3 %**

Normal Vehicle | Permitted/Opposed | Stopped Vehicle
Slip-Lane | Opposed Slip-Lane | Continuous
Pedestrian | Turn On Red | Dummy

C Cycle Time
G Green Time
I Intergreen Time (yellow plus all-red)
(G + I)/C Phase time as a percentage of cycle

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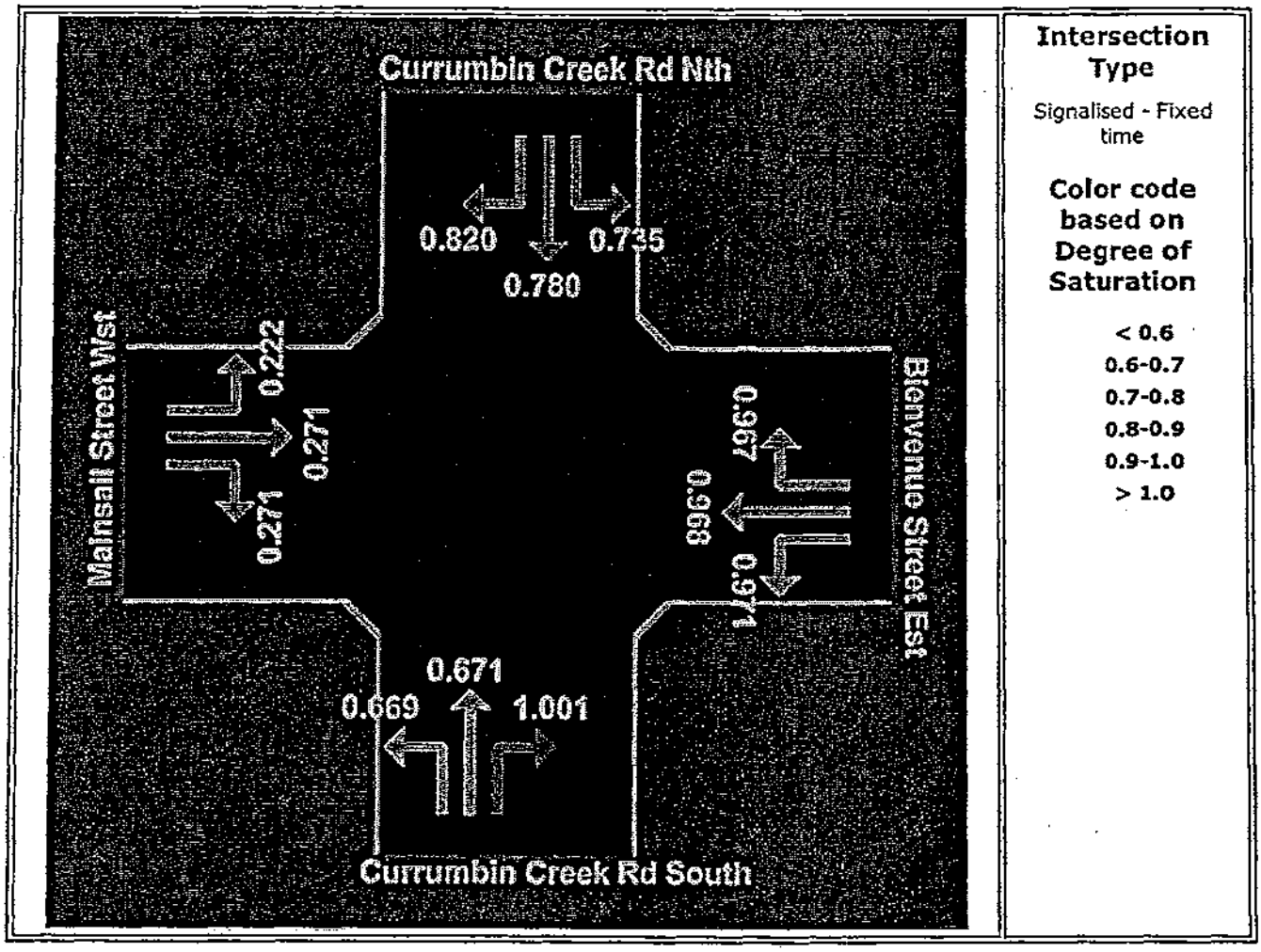
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Degree of Saturation

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aaTraffic SIDRA

Demand Volume / Capacity (v/c) ratio

Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2019, +Develop



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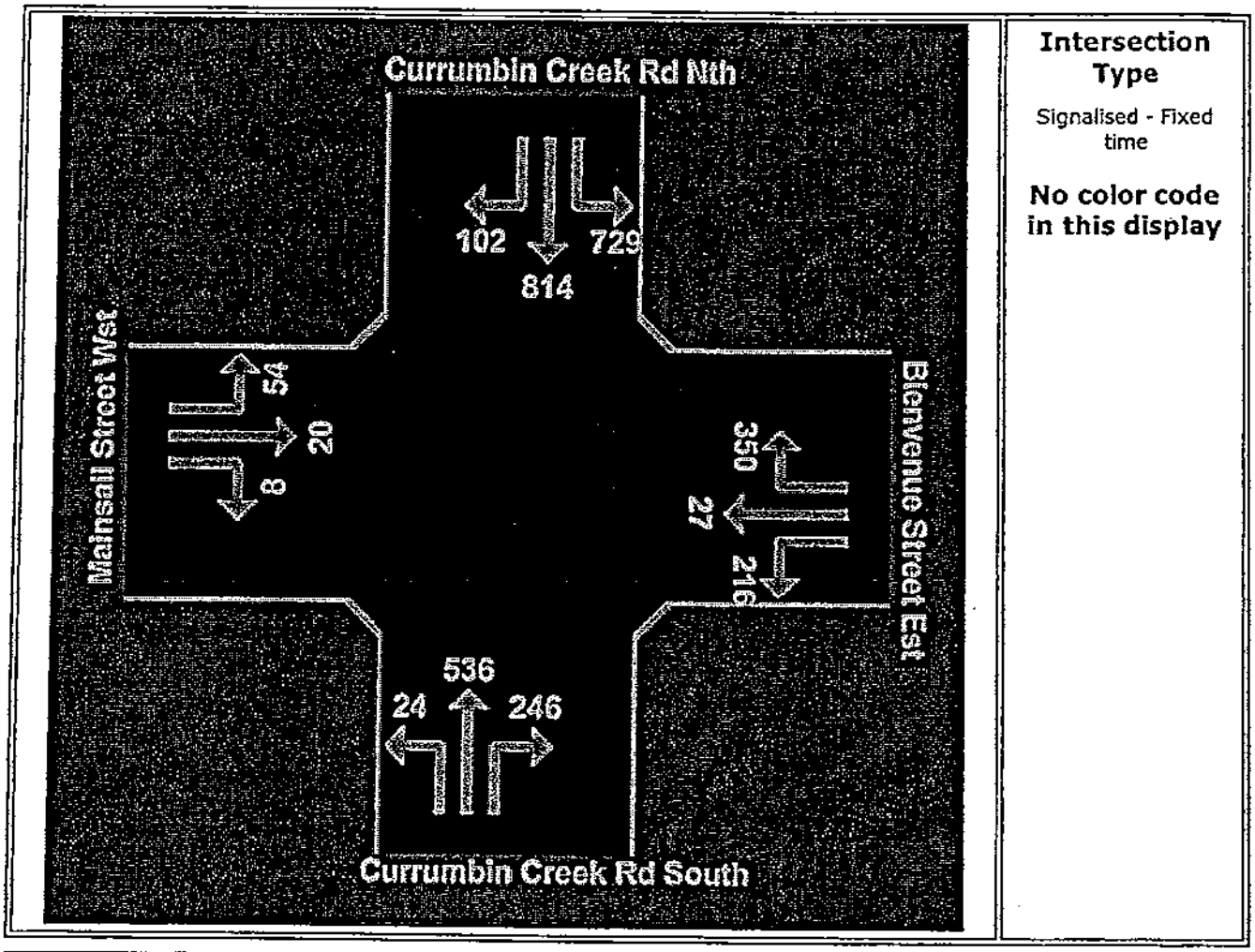
Generated 29/03/2004 10:50:48 AM

Input Volumes

akcelik & associates
aaTraffic SIDRA

Total flow rates as given by the user (veh/60 min)

Bienvenue St/Currumbin Creek Rd, Mitigation, PM 2019, +Develop



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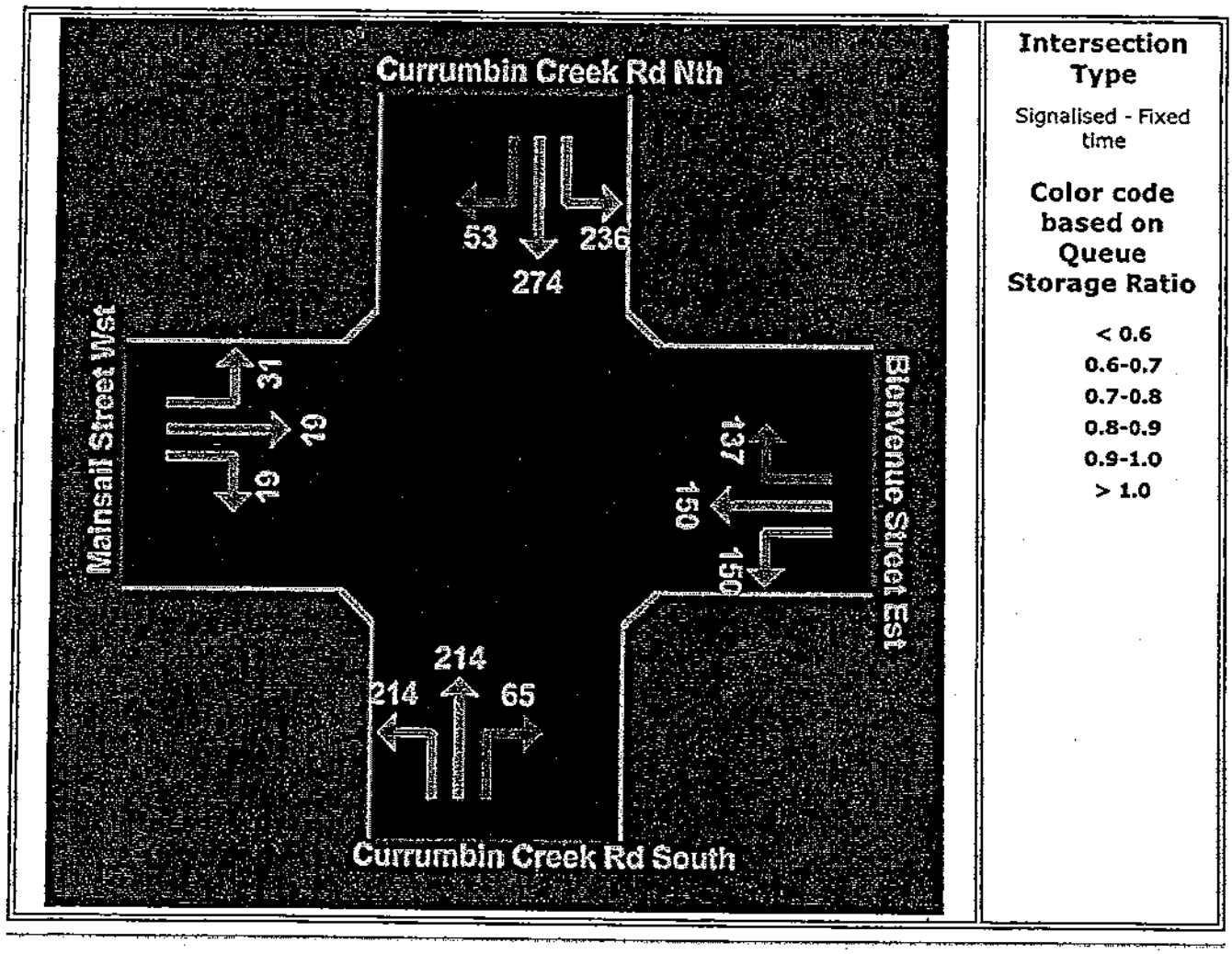
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Queue Distance

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Largest 95% Back of Queue for any lane used by movement (metres)

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GOLD COAST GOLF RESORT DURUMBIN

Prepared for: Devine

Prepared by: Weathered Howe
Bushland Protection Systems
Lawson & Treloar

Volume 1a
Site Based Management Plan

April 2004

GOLD COAST GOLF RESORT
CURRUMBIN

APRIL 2004

Volume 1	Executive Summary and Town Planning Report
Volume2	Site Planning and Design Guidelines Report
Volume 3	Visual Analysis and Landscape Intent Report
Volume 4	Technical Reports
Volume 5	Site Based Management Plan

Prepared For

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GOLD COAST GOLF RESORT
CURRUMBIN

SITE BASED MANAGEMENT PLAN

for

DEVINE LIMITED

22 April 2004

DOCUMENT CONTROL SHEET

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Client: DEVINE LIMITED

Document Summary

The aim of this Site Based Management Plan (SBMP) is to provide detailed policies, performance criteria and procedures to minimise the impact of the Gold Coast Golf Resort Currumbin on the physical and social environment.

Revision History

Revision Number	Prepared by	Date	Reviewed by	Date	Issued by	Date
Name	Simon Groth	22/04/04	Rangi Campbell	22/04/04	Rangi Campbell	22/04/04
Signed						

Distribution List

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Devine Limited							

DEVINE LIMITED

CURRUMBIN CREEK ROAD, CURRUMBIN

SITE BASED MANAGEMENT PLAN

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1.0 INTRODUCTION

1.1 PURPOSE

The aim of this Site Based Management Plan (SBMP) is to provide detailed policies, performance criteria and procedures to minimise the impact of the Gold Coast Golf Resort Currumbin on the physical and social environment. In particular, the SBMP provides monitoring and reporting mechanisms whereby the performance of the system can be measured, and ensure that agreed corrective actions are implemented in a timely manner if problems occur.

Issues relating to ecological and landscape components are covered in detail within the Yurrah Pty Ltd document entitled "Relevant Biological Issues for the Site Based Management Plan".

The SBMP has been prepared in accordance with Queensland Environmental Protection Agency (EPA) Guidelines, and sound engineering and environmental practice.

1.2 ELEMENTS OF THE SITE BASED MANAGEMENT PLAN

Elements of the SBMP are specific to the construction or operational phase of the development and have been separated accordingly. The SBMP has been prepared in a format that nominates for each development or environmental issue or impacting activity, the tasks that are required to be addressed during the construction and operational phases of the development.

PROJECT ELEMENT

- The aspect of the development requiring management consideration.

POLICY:

- Description of the element intent.

PERFORMANCE OBJECTIVES:

- Description of the performance objects that is to be achieved.

CONTROL MEASURES:

- Description of the steps to be taken to implement the nominated performance objective, including any necessary approval, applications, consulting, monitoring.

PERFORMANCE INDICATORS:

- Description of the criteria against which the level of achievement of the stated performance objective shall be measured.

MONITORING/FREQUENCY:

- Description of the process of measuring actual performance.
- Nomination of the time frame in which each of the control measures are to be carried out and/or completed (eg. daily, monthly, prior to commencement of use).

RESPONSIBLE PERSON/ORGANISATION:

- Assignment of responsibility for carrying out each control measure to a relevant person and/or Organisation; including a process for dealing with complaints about the activity.

REPORTING:

- Description of the required reporting arrangements (including auditing) for each control measure (eg. how often, by whom, to whom).

CORRECTIVE ACTION:

- Description of the action to be implemented if the stated objectives are not being met or maintained, including who is the responsible person or organisation for taking the required actions.

1.3 COMPLAINTS RESPONSE PROCEDURE

In the event of a future complaint being received by Devine Limited or contractors appointed by Devine Limited about activities which are the subject of this SBMP, a written report shall be prepared by the designated responsible person detailing:

- the date and time of the complaint;
- the method by which the complaint was lodged;
- any personal details of the complainant which were provided by the complainant;
- the nature of the complaint; and
- the action taken by the responsible person in relation to the complaint, including any follow-up contact with the complainant.

This information shall be retained for a period of no less than three years from the date of receiving the complaint. A copy of a proforma Environment Complaints Form has been included in this SBMP (Refer Appendix C).

1.4 IMPLEMENTATION OF SITE BASED MANAGEMENT PLAN

All staff employed and contractors appointed by Devine Limited shall be formally advised of their obligations under the SBMP, and informed of the significance of the SBMP. The SBMP shall be made available to all staff and contractors by Devine Limited as a reference document. It is proposed the SBMP for the residential areas shall be provided to the Body Corporate(s) responsible for administering the Community Management Scheme (CMS).

1.5 DOCUMENT CURRENCY

The currency of all copies of the SBMP shall be reviewed annually to ensure that current versions of the SBMP are available to staff and contractors and obsolete versions are removed to avoid errors and confusion.

1.6 RECORDS

All records required to be kept by this SBMP shall be kept at the subject development for a period of at least three years and be available for examination by an person or agent authorised at law to inspect the SBMP. Records shall be kept in the form of annual summaries after that period.

1.7 MANAGEMENT AND REPORTING STRUCTURE

The chain of command for the relevant activities is summarised below.

PHASE	TITLE AND ORGANISATION
Construction	• The Project Manager/superintendent – propponents representative • The Construction Manager – contractors representative
Operational	• For the golf course precinct – the Operator of the golf course • For the residential precincts – the Body Corporate responsible for administration of the Community Management Scheme (CMS)

1.8 MONITORING AND REPORTING

The developed SBMP will include a pro forma to assist with compliance with monitoring frequency and the reporting.

1.9 DEPARTMENTAL CONTACTS

The developed SBMP will include the phone numbers of the relevant government agencies and emergency services:-

Gold Coast City Council:	
Environmental Protection Agency:	
Department of Natural Resources & Mines:	
Department of Primary Industries:	
Police (non-emergency):	
Ambulance (non-emergency):	
Fire Brigade (non-emergency):	

Note: The alliance schedule to be updated and completed prior to commencement of construction.

1.10 CONTACTS – INPUT TO THE SBMP

- The following individuals and companies have provided input into the preparation of the SBMP:

Management Issue	Contact
Master Planning	Mr Paul Nunn Mr Graeme Thiedeke ML Design
Construction Design, SBMP Co-ordination	Mr John Howe Mr Rangi Campbell Mr Simon Groth Weathered Howe
Terrestrial Fauna and Flora	Mr Boyd Sargeant Planit Consulting
Flooding and Tidal Hydraulics	Mr Neil Collins Lawson & Treloar
Landscape and Planting Scheme Open Space	Dr David Hassell Yurrah Pty Ltd
Stormwater System	Mr Neil Collins Lawson & Treloar Simon Groth Weathered Howe
Contaminated Land	To be appointed if applicable
Water Quality	Mr Neil Collins Lawson & Treloar Simon Groth Weathered Howe Engineering
Geotechnical Engineering	Mr Ron McMahon Mr Keith Urquhart Coffey Geosciences
Traffic Engineering – External	Mr Peter Josey Connell Wagner
Land Surveying (Existing Site Features)	Mr Greg Short Bennett & Bennett
Acid Sulfate Soils	Mr Ron McMahon Coffey Geosciences
Bush Fire Management	Mr Clyde Bain Clyde Bain Fire Management

1.11 STATUTORY APPROVALS

In the event of any inconsistency arising between the undertaking of the SBMP,and state or local government approvals required for the undertaking of the project, the conditions of the approvals take priority.

1.12 ECOLOGICALLY, SUSTAINABLE DEVELOPMENT

In preparing the SBMP, the design and assessment team recognised that the project must be undertaken in accordance with the principles of ecologically sustainable development. In order to achieve this, the design and assessment team, adopted the following definition of ecologically sustainable development as the guiding principle, whereby:

Meaning of "ecological sustainability"

"1.3.3 "Ecological sustainability" is a balance that integrates-

(a) protection of ecological processes and natural systems at local, regional, State and wider levels; and

(b) economical development; and

(c) maintenance of the cultural, economic, physical and social wellbeing of people and communities"

"1.3.6 For section 1.3.3-

(a) ecological processes and natural systems are protected if-

(i) the life supporting capacities of air, ecosystems, soil and water are conserved, enhanced or restored for present and future generations; and

(ii) biological diversity is protected; and

(b) economical development occurs if there are diverse, efficient, resilient, and strong economies (including local, regional and State economies) enabling communities to meet their present needs while not compromising the ability of future generations to meet their needs; and

(c) the cultural, economic, physical and social wellbeing of people and communities is maintained if-

(i) well-serviced communities with affordable, efficient, safe and sustainable development are created and maintained; and

(ii) areas and places of special aesthetic, architectural, cultural, historic, scientific, social or spiritual significance are conserved or enhanced; and

(iii) integrated networks of pleasant and safe public areas for aesthetic enjoyment and cultural, recreational or social interaction are provided.'

1.13 CONSTRUCTION PHASE ELEMENTS

This SBMP contains the following elements relating to the construction phase:

ELEMENT No C1: Stormwater Management Plan
ELEMENT No C2: Erosion and Sedimentation Control Plan
ELEMENT No C3 Water Quality Monitoring Program
ELEMENT No C4: Residential Amenity
ELEMENT No C5: Waste Management
ELEMENT No C6: Noise Control
ELEMENT No C7: Management of Existing Vegetation
ELEMENT No C8: Protection of On Site Water Bodies and Currumbin Creek Environment
ELEMENT No C9: Visual Monitoring and Contingency Measures for High Algae
ELEMENT No C10: Protection of On-site Fauna
ELEMENT No C11: Fauna Habitat Protection and Management
ELEMENT No C12: Mosquito and Midge Management
ELEMENT No C13: Landscape Establishment Management
ELEMENT No C14: Air Quality
ELEMENT No C15: Acid Sulfate Soils
ELEMENT No C16: Open Space Management Plan
ELEMENT No C17: Bushfire Risk Assessment and Mitigation Plan
ELEMENT No C18: Lighting
ELEMENT No C19: Site Restoration
ELEMENT No C20: Capture of Nutrients in Wetland System
ELEMENT No C21: Recycled Water Use for Irrigation
ELEMENT No C22: Cultural Heritage
ELEMENT No C23: Construction Activities on Steep Slopes

1.14 OPERATIONAL PHASE ELEMENTS

Elements are included for the operation phase, which is the phase from the substantial completion of the project to the expiry of the on-maintenance period. This operational phase also includes elements for the golf course precinct and the residential precincts. The operation phase SBMP elements are:

ELEMENT No 01: Stormwater Management Plan
ELEMENT No 02: Infrastructure
ELEMENT No 03: Open Space Management Plan & Recreation and Community Facilities Plan
ELEMENT No 04: Bushfire Risk Assessment and Mitigation Plan
ELEMENT No 05: Water Quality Management
ELEMENT No 06: Protection of Currumbin Creek Environment
ELEMENT No 07: Landscape Maintenance and Control
ELEMENT No 08: Long Term Weed Control
ELEMENT No 09: Management Strategy for Control of Mosquitoes and Midges on Constructed Wetlands.
ELEMENT No.010: Crime Prevention through Environmental Design
ELEMENT No.011: Wetland and Emergent Macrophyte Maintenance
ELEMENT No.012: Management of Fertiliser/Pollutant Inputs to Creek System
ELEMENT No.013: Monitoring and Contingency Measures for High Algae Levels/Fish Kills in Wetlands & Drainage Channel

ELEMENT No.014: Fauna Habitat Protection and Management
ELEMENT No.015: Recycled Water Management
ELEMENT No.016: Acid Sulfate Soils
ELEMENT No.017: Cultural Heritage
ELEMENT No.018: Waste Management
ELEMENT No 019: Construction Activities on Steep Slopes

2.0 PREAMBLE TO THE ENVIRONMENTAL MANAGEMENT PLAN

2.1 TERMINOLOGY

The terms "**Proponent**", "**Principal**" and "**Developer**" refer to Devine Limited.

The **Contractor** refers to the party or company performing construction works on site, and includes all employees of the Contractor and sub-contractors.

The **Superintendent** in the SBMP refers to the party or Company superintending the construction works on behalf of the Proponent, Principal, or Developer. The Superintendent may also be taken to mean the "Project Manager" responsible to the Proponent, Principal or Developer.

The **Consultant** refers to the principle consultant commissioned by developer.

GCCC refers to the Gold Coast City Council

EPA refers to the Environmental Protection Agency

SBMP refers to the Site Based Management Plan

2.2 SBMP - PROGRAM AND CONTRACTUAL OBLIGATIONS

The SBMP is segregated to reflect all stages of construction and operation.

2.2.1 Construction Phase

The construction phase refers to the period from the commencement of works on site to the substantial completion of the works and acceptance of works "on maintenance". The Contractor is generally responsible for ensuring that the provisions of the Site Based Management Plan are met, except for certain planning or design issues, which are explicitly noted as being the responsibility of the Proponent or Consultant, as appropriate.

2.2.2 Operational Phase

The operation phase refers to the period from substantial completion of each phase and acceptance of works "on maintenance" to the expiry of the on-maintenance period (sometimes referred to as the defects liability period, or the defects correction period or until the works are accepted "Off Maintenance"). The Contractor is generally responsible for ensuring that the provisions of the SBMP are met during this period, and that the permanent works, such as, gross pollutant traps, rehabilitation works etc function as intended.

The Contractor is required to provide monitoring, including water quality monitoring, from commencement of the works to the completion of the on-maintenance period, that is, until acceptance of the works "off maintenance".

Upon the expiry of the on-maintenance period, infrastructure works (roads, drainage etc) will be accepted by GCCC or Proponent as applicable. The GCCC, Proponent, Body Corporate or relevant authority may wish to adopt their own environmental management and monitoring programme, which would be suited to the regional context.

The SBMP should be regarded as a condition of contract between the Contractor and the Proponent. Although the Proponent may hold ultimate responsibility for ensuring that the proposed development complies with relevant environmental legislation, such as the Environmental Protection Act (EPA) 1994 and the Environmental Protection (Water) Policy 1997 (EP(W)P), the proponent's duties regarding construction are transferred to the Contractor by the contract.

The Environmental Protection Act places a duty on any person undertaking any activity to report any incidences that may cause environmental harm. The following table summarises the responsibility obligations during the various phases of the development.

TABLE OF SBMP RESPONSIBILITY OBLIGATIONS

PHASE	TIME PERIOD	RESPONSIBLE PERSON/ ORGANISATION
Construction	During construction of works	Contractor
Operational	On maintenance	Contractor
Operational	Off maintenance ongoing operations	Golf Course Precinct – the Golf Course Manager
		Residential Precincts – the Body Corporate (CMS)

3.0 ELEMENTS OF THE SITE BASED MANAGEMENT PLAN

3.1 CONSTRUCTION PHASE

3.1.1 ELEMENT No C1: Stormwater Management Plan

POLICY:

- To minimise the impact of construction activity on water quality within water bodies internal and external to the site, and to protect the biological integrity of the aquatic ecosystem. Also to prevent environmental harm from occurring.

A detailed conceptual stormwater management plan has been developed by Lawson & Treloar as supporting documentation to this element. A copy of this plan is provided in Attachment G of this document.

PERFORMANCE OBJECTIVES:

- To avoid detrimental impact on the water quality and aquatic environment of the downstream catchment, as a result of the discharge of contaminated stormwater runoff.

To comply with the *Environmental Planning and Assessment Act.*

Water discharged off site to have a suspended solids concentration of 50 mg/L or less and a pH between 6.5 and 8.5.

CONTROL MEASURES:

- All erosion and sediment controls must be operated in accordance with this element and maintained to be fully operational at all times. Worn, damaged or otherwise defective materials and components are to be repaired, refurbished or replaced as they become ineffective for their design purpose.

The Contractor shall provide as a minimum the temporary control measures as detailed on **Drawing No G03158E-A19**, to prevent soil erosion, scouring, sediment transport and deposition. Temporary control measures include:

- temporary sedimentation basin
- temporary sediment fences
- stabilised site access
- rock check dams
- rock lined chutes
- perimeter bunds
- catch drains

All surface runoff shall be directed to the sedimentation ponds to prevent sediment transport from the site.

Should it be deemed necessary from monitoring, the Contractor shall provide additional control measures to ensure the objectives of this element are met.

Any chemicals (including lime) or fuel/oil stored on site shall be stored under cover in a bunded area or placed sufficiently above ground level to preclude contamination of surface water. The only potential source of contamination of surface water is to be due to erosion of ground surfaces.

All sediment control structures must be operated and maintained in an effective operational condition. These structures must not be allowed to accumulate sediment volumes in excess of 70% sediment storage design capacity. Materials removed from sediment retention basins must be disposed of in a manner approved by Council that does not cause pollution.

PERFORMANCE INDICATOR:

- Water quality monitoring results conform with water quality performance criteria.

MONITORING:

- Regular on site monitoring of water quality shall be required. Such monitoring, to be undertaken by the contractor, shall include:

DURING CONSTRUCTION

Parameter	Frequency	Reporting
Suspended Solids	During discharge	Non complying test results are to be notified within 24 hours to Council
PH	• if in areas with no identified acid sulfate risk during controlled discharge event from sedimentation basins • if in acid sulfate soils risk area, daily or during controlled discharge event	Non complying test results are to be notified immediately to Council

A self auditing program must be developed for the site. A site inspection must be undertaken by the contractor:

- at least each week
- immediately following rainfall events

The self audit must be undertaken systematically on site (e.g. walking anticlockwise from main entrance) and recording:

- installation/removal of any erosion and sediment control device
- the condition of each device employed (particularly outlet devices), noting whether it is likely to continue in an effective condition until the next self audit
- circumstances contributing to damage to any devices, accidental or otherwise
- storage capacity available in pollution control structures
- time, date, volume and type of any additional flocculants
- the volumes of sediment removed from sediment retention systems, where applicable, and the site where sediment is disposed
- maintenance or repair requirements (if any) for each device

- circumstances contributing to the damage to device
- repairs affected on erosion and pollution control devices

Signed, completed self audits, original test results, weekly and other result sheets shall be kept on site and are to be available on request to Council officers and other relevant statutory authorities.

REPORTING:

- The Contractor shall prepare monthly reports to the Consultant on all requirements of this element. The consultant shall review and forward to Council.

RESPONSIBLE PERSON:

- The Contractor shall be responsible for requirements in this element.

CORRECTIVE ACTION:

- Non compliance with SWMP and conditions of approval must be dealt with immediately. If there is a breach or infringement of conditions, action will be taken consistent with the nature and seriousness of the breach or infringement. Action may include:

  (i) issue of "stop work notice"
  (ii) notice to comply pending reinspection of the site.

Standard responses to Non Compliance

The following responses are required by the contractor to non complying monitoring test results:

Indicator	Response	Comments
pH too low <6.5	• If possible stop discharge and store runoff on site • lime dose to restore to acceptable pH before further discharge • Notify Council of non compliant discharge	Reporting as shown in monitoring
pH too high >8.5	• If possible stop discharge and store runoff on site • Dilute with other water until pH in acceptable range • re-test for compliance before further discharge	
Suspended Solids (NFR) >50mg/litre	Identify if non compliance is due to storm event greater than design storm of control devices. If so accept non compliance. If not then:- • If possible stop discharge and store runoff on site • Use flocculation agents to lower NFR or • Pump contaminated water over grassed filter strips or buffer areas to lower NFR • Identify (by inspection and/or analysis) if non compliance is due to damage or ineffectiveness of erosion and sediment control devices. Repair or redesign/replace if necessary (or required by Council) to ensure future compliance.	Non compliance may occur, by design, in > 3month

3.1.2 ELEMENT No C2: Erosion and Sedimentation Control Plan

POLICY:

- This Erosion and Sedimentation Control Plan (ESCP) has been prepared to provide detailed policies, performance criteria and procedures to minimise the impact of construction activities on the physical and social environment. In particular, the ESCP provides monitoring and reporting mechanisms whereby the performance of the system can be measured and ensure that agreed corrective actions are implemented in a timely manner should they occur.
- The proposed allotment layout is generally intended to utilize the existing contours of the area, with minimal earthworks proposed to form the final design levels.
- The development will be staged. It is intended that the proposed works will be split into a number of stages in an effort to minimise the area exposed by construction at any one time.
- During the construction phase the site is generally considered a high erosion risk due to the existing grades across the site.
- The existing vegetation on the areas of the site to be developed consists of trees of varying size on the elevated section, with the lower section of the site being well grassed.
- Emphasis shall be placed on source control of erosion by retaining vegetation for as long as practical and revegetating disturbed areas as soon as possible.

PERFORMANCE OBJECTIVES:

- To avoid detrimental impact on the water quality and aquatic environment of the downstream catchment, as a result of the discharge of contaminated stormwater runoff.
- To minimise the impact of construction activity on water quality within water bodies external to the site, and to protect the biological integrity of the aquatic ecosystem.
- To comply with the Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Site (IE Aust).
- Water discharged off site is to have a suspended solids concentration of 50 mg/L or less and a pH between 6.5 and 8.5.
- Site runoff during construction will be controlled by the devices shown on Weathered Howe Standard **Drawing G03158E-A19** attached in Appendix D of this report. Proposed devices include sedimentation ponds, sediment filter fencing, perimeter bunds, catch drains, check dams, overflow for haul roads and temporary culverts. A shakedown device will be located at the entrance to the site.

- The proposed devices are to be installed prior to construction and maintained until completion of construction or as long as practical.

- It is intended that the majority of runoff from the construction area will be directed to the sedimentation ponds for treatment. This will be achieved by ensuring the site grades to the sedimentation pond, and that the catch drains and check dams control and convey the flow of water from surface runoff down the steeper grades. Runoff will then flow from the sedimentation ponds after treatment to the existing on site drain.

- To reduce re-suspension of suspended solids and scour, the catch drains are to have rock check dams installed.

- The perimeter of the site will be protected by the use of sediment filter fences and perimeter bunds to ensure there is no uncontrolled discharge off site.

- Measures will be taken to reduce the runoff from the surrounding vegetated areas will be diverted around the construction area and be allowed to continue along the natural watercourse unaffected.

CONTROL MEASURES:

- All erosion and sediment controls must be operated in accordance with the ESCP and maintained to be fully operational at all times. Worn, damaged or otherwise defective materials and components are to be repaired, refurbished or replaced as they become ineffective for their design purpose.

- All surface runoff shall be directed to the sediment ponds to prevent sediment transport from the site. As a minimum the Contractor shall provide temporary control measures as detailed on Weathered Howe **Drawing G03158E-A19** to prevent soil erosion, scouring, sediment transport and deposition. Temporary control measures include:

  (i) temporary sedimentation basin
  (ii) temporary silt fences
  (iii) controls on amount of open ground
  (iv) catch drains
  (v) check drains
  (vi) temporary overflow crossings
  (vii) temporary culverts

- The control devices listed above and shown on the mentioned figures are the minimum requirements. The Contractor shall install whatever measures are considered necessary to minimise the impact of construction activities on the surrounding environment.

- Any chemicals (including lime) or fuel/oil stored on site shall be stored under cover in a bunded area or placed sufficiently above ground level to preclude contamination of surface water. The only potential source of contamination of surface water is to be due to erosion of ground surfaces.

- Permanent stormwater treatment measures shall be provided as soon as possible after completion of each construction area.

- All sediment control structures must be operated and maintained in an effective operational condition. These structures must not be allowed to accumulate sediment volumes in excess of 70% sediment storage design capacity. Materials removed from sediment retention basins must be disposed of in a manner approved by Council that does not cause pollution.

MONITORING:

- Regular on site monitoring of discharge water quality shall be required. Such monitoring, to be undertaken by the contractor, shall include:

Parameter	Frequency	Reporting
Suspended Solids	During discharge event (defined as >25mm in any 24 hour period) and monthly in primary sediment ponds	Non complying test results are to be notified within 24 hours to Council officers
pH	During controlled discharge events from sedimentation basins and monthly in primary sediment ponds, as the site has been identified as having no acid sulfate risk	Non complying test results are to be notified immediately to Gold Coast City Council

- Refer to the Water Quality Monitoring Program for further details.

- A self auditing programme must be developed for the site. A site inspection must be undertaken by the contractor:

  (i) at least each week
  (ii) immediately before site closure
  (iii) immediately following rainfall events that cause runoff.

- The self audit must be undertaken systematically on site (e.g. walking anticlockwise from main entrance) and recording:

  (i) installation/removal of any erosion and sediment control device
  (ii) the condition of each device employed (particularly outlet devices), noting whether it is likely to continue in an effective condition until the next self audit
  (iii) circumstances contributing to damage to any devices, accidental or otherwise
  (iv) storage capacity available in pollution control structures
  (v) time, date, volume and type of any additional flocculants
  (vi) the volumes of sediment removed from sediment retention systems, where applicable, and the site where sediment is disposed
  (vii) maintenance or repair requirements (if any) for each device
  (viii) repairs affected on erosion and pollution control devices

- Signed, completed self audits, original test results, weekly and other result sheets shall be kept on site and are to be available on request to Council officers and other relevant statutory authorities.

All records are to be maintained in a form suitable for Council submission.

REPORTING: The Contractor shall prepare monthly reports to tie consultant on all requirements of this element. The consultant shall review and forward to Council.

RESPONSIBLE PERSON: The Contractor shall be responsible for meeting all requirements of this element.

CORRECTIVE ACTION:

- Non compliance with this Erosion and Sediment Control Plan, approved drawings and conditions of consent must be dealt with immediately. If there is a breach or infringement of the plan or conditions, action will be taken consistent with the nature and seriousness of the breach or infringement. Action may include:

  (i) issue of "stop work notice"
  (ii) a fine under the provisions of the Protection of the Environment Operations Act 1997
  (iii) notice to comply pending reinspection of the site.

- The following responses are required by the contractor to non complying monitoring test results:

Indicator	Response	Comments
pH too low <6.5	• If possible stop discharge and store runoff on site • lime dose to restore to acceptable pH before further discharge • Notify Council's Environmental and health Services Unit of non compliant discharge (within 24 hours)	Reporting as shown in monitoring
pH too high >8.5	• If possible stop discharge and store runoff on site • Dilute with other water until pH in acceptable range • re-test for compliance before further discharge	
Suspended Solids (NFR) >50mg/litre	Identify if non compliance is due to storm event greater than design storm of control devices. If so accept non compliance. If not then:- • If possible stop discharge and store runoff on site • Use flocculation agents to lower NFR or • Pump contaminated water over grassed filter strips or buffer areas to lower NFR • Identify (by inspection and/or analysis) if non compliance is due to damage or ineffectiveness of erosion and sediment control devices. Repair or redesign/replace if necessary (or required by Council) to ensure future compliance.	Non compliance may occur, by design, in > 3month (deemed to be 40% of the ARI one year event)

3.1.3 ELEMENT No C3: Water Quality Monitoring Program

Purpose

The Water Quality Monitoring Programme (WQMP) has been prepared to monitor the groundwater and surface water quality on, and adjacent to the site, to ascertain that the development does not cause any adverse effects.

It is intended for the monitoring programme to be carried out prior to construction, during construction, and post-construction.

Existing Water Quality

Baseline water quality monitoring for the project has been carried out over the period between December 2003 and February 2004. The monitoring has identified the existing water quality ranges in the Currumbin Creek adjacent to the site to be:

pH	7.2	-	8.0	
SS	15.0	-	100.0	mg/L
Total Phosphorus	0.37	-	0.19	mg/L
Total Nitrogen	0.27	-	1.10	mg/L
Fe	0.45	-	7.2	mg/L
Al	0.2	-	3.5	mg/L

Initial Baseline Water Quality investigations for the site were carried out by Weathered Howe Pty Ltd. This investigation concentrated specifically on the water quality of surface and groundwater onsite and within Currumbin Creek.

Three (3) sampling locations within Currumbin Creek adjacent to the site on surface water location and six (6) groundwater monitoring bores on the subject site were established with sampling and analysis carried out between December 2003 and February 2004.

Laboratory water quality results and the Water Quality Monitoring Locality Plan are included in Appendix A.

The results of the above investigation will be used in conjunction with results published in the GCCC report "Health of the Gold Coast Waterways, November 2002", on the water quality within Currumbin Creek. A summary of baseline water quality results is provided in Tables 1 and 2 below.

Table 1 **Summary of Mean Baseline Groundwater Quality Results (2003-2004)**

Parameter	Units	MB1	MB2	MB3	MB4	MB5	MB6
Ph		5.45	6.43	6.23	6.10	4.98	7.42
EC	µS/cm	1.782	7.213	0.590	4.387	0.260	1.764
Total Phosphorus	mg/L	0.124	0.022	0.075	0.263	0.063	0.343
Total Nitrogen	mg/L	1.24	0.94	0.79	3.75	0.43	0.43
Fe	mg/L	55.0	42.9	91.2	167.5	41.7	2.1
Al	mg/L	52.3	6.3	89.4	50.2	23.9	2.0

Table 2 **Median Water Quality Results for Currumbin Creek as published in the Gold Coast City Council "Health of the Gold Coast Waterways (November 2002)"**

Parameter	Units	CRC 4A
pH		7.8
Turbidity	mg/L	5.0
DO	mg/L	6.0
Total Nitrogen	mg/L	0.35
Chlor-a	mg/L	-
Conductivity	(mS/cm)	42
Total Phosphorus	mg/L	0.05
EColi	Cfu/100L	50

POLICY:

- To monitor the water quality within Currumbin Creek, the internal watercourse and the nominated groundwater locations in order to determine if there are any impacts from the development.

PERFORMANCE OBJECTIVES:

- Corrective action is to be undertaken should the water quality in Currumbin Creek exceed the following development limits in Table 1, as a direct impact from the development.

TABLE 1 PERFORMANCE OBJECTIVES

Parameter	Units	Baseline Range	Development Limits
pH		6.5-8.0	Baseline +/- 10%
SS	mg/L	15-100	Baseline +/- 10%
EC	µS	25.41-52.7	Baseline +/- 10%
DO	mg/L	6.0-8.5	Baseline +/- 10%
Temp	°C	24.84-30.18	Baseline +/- 10%
Total Phosphorus	mg/L	0.037-0.198	Baseline +/- 10%
Total Nitrogen	mg/L	0.27-1.10	Baseline +/- 10%
Fe	mg/L	0.45-7.2	Baseline +/- 10%
Al	mg/L	0.2-3.5	Baseline +/- 10%

MONITORING LOCATIONS:

- Three surface water quality monitoring locations have been located in the Currumbin Creek upstream, adjacent and down stream of the development site. One surface water monitoring point and six groundwater quality monitoring points have been located centrally and on the perimeter of the site. All monitoring locations are identified in the **Drawing G03158E-SG "Water Quality Monitoring Locality Plan".**

MONITORING PROGRAMME:

- The Consultant will carry out water quality monitoring in accordance with the following programme:

TABLE 2 MONITORING PROGRAM

PERIOD	LOCATION	MONITORING POINT IDENTIFICATION	PARAMETERS	FREQUENCY
Pre-Construction	Ground waters	MB1, MB2, MB3, MB4, MB5, MB6	pH, EC, DO, Temp, Fe, Al, TP, TN	Monthly
	Surface waters	SW1, SW2, SW3, SW4	pH, EC, DO, Temp, SS, Fe, Al, TP, TN	Monthly
During Construction	Ground waters	MB1, MB2, MB3, MB4, MB5, MB6,	pH, EC, DO, Temp Fe, Al, TP, TN	>25mm rainfall Monthly
	Surface waters	SW1, SW2, SW3, SW4	pH, EC, DO, Temp, SS, EC, DO, Temp, SS, Fe, Al, TP, TN	>25mm rainfall Monthly
*Post-Construction	Ground waters	MB1, MB2, MB3, MB4, MB5, MB6	pH, EC, DO, Temp, Fe, Al, TP, TN	Monthly for first six months
	Surface waters	SW1, SW2, SW3, SW4	pH, EC, PO, Temp, SS, Fe, Al, TP, TN	>25mm rainfall events

*** Post construction monitoring to continue for six months after construction.**

REPORTING:

- During construction, monthly reports are to be prepared on the monitoring carried out. The reports are to include all test results and a summary of the findings for the period. The reports are to be submitted to Council.
- Quarterly reports after completion of the development will be prepared and submitted to Council for a six month period.

RESPONSIBLE PERSON:

- The principal consultant will be responsible for performing requirements of this element.

CORRECTIVE ACTION:

- Should it be found that the development has caused a decline in water quality, corrective action shall be undertaken in consultation with Council.

3.1.4 ELEMENT No C4: Residential Amenity

POLICY:

- To minimise the impact of the construction on the local community.

PERFORMANCE OBJECTIVES:

- No unreasonable disruption to the residential amenity of the local area shall be allowed.

CONTROL MEASURES:

- The Contractor should establish an induction program to the satisfaction of the Superintendent, to inform all site workers of environmental protection requirements and practices on the site; prior to their commencement on the site.
- The Contractor shall advise local residents (occupants of all residences located within 200 metres of the marked work area) of the proposed construction and the proposed construction program; shall provide means to advise residents in advance of construction activities that may impact upon the residents; and establish a system to receive complaints and comments from and to seek the cooperation and assistance of the community.
- All construction areas shall be fenced to protect local residents. Signs shall be placed around the site to inform and protect the residents and public; the signs shall include 24 hour contact telephone numbers for the Contractor.

PERFORMANCE INDICATOR:

- Environmental management strategies successfully implemented and maintained for the endurance of the project. No complaints received in relation to construction works.

MONITORING:

- The Contractor shall maintain records of the Contractor's induction training, and a complaints register. The complaints register will detail the date, time, name, contact details, complaint, investigation, and corrective action taken.

REPORTING:

- Monthly reporting by the Contractor to the Superintendent (the superintendent shall provide copies to Gold Coast City Council and Environmental Protection Agency) on the monitoring, including full details of any contentious issues and actions taken to maintain mutual cooperation.

RESPONSIBLE PERSON:

- The contractor shall be responsible for the requirements in this element.

CORRECTIVE ACTION:

- Offending activities resulting in a valid complaint from a resident or residents shall be stopped or remedial action instigated by the Contractor to the satisfaction of the Superintendent

3.1.5 ELEMENT No C5: Waste Management

POLICY:

- To maintain the construction site in a neat and tidy state without build up of litter, and to delineate working areas in a clear and safe manner.

PERFORMANCE OBJECTIVES:

- The site shall be maintained in a safe and tidy condition. Waste materials generated on site shall be stored in safe temporary storage prior to off-site disposal. All relevant Gold Coast City Council by-laws shall be complied with.

CONTROL MEASURES:

- The Contractor shall prepare a Work Plan, to the approval of the Superintendent, prior to commencing work, to schedule the works to enable the construction to be undertaken with the least harmful effects. The work area shall be marked and fenced by the Contractor before construction commences; and vehicles, plant and equipment, especially of the off-road type, shall not operate outside the marked work area. Construction access roads or tracks shall be planned and constructed only after endorsement by the Superintendent.

- The Contractor shall establish a Litter and Waste Control Plan, to the satisfaction of the Superintendent, prior to commencing work, to manage the collection, storage and removal of all litter and waste on the site, whatsoever its origin.

- All litter and waste, including pre-existing materials, construction wastes, human waste, used oils and any other surplus materials shall not be disposed of on site. All such materials shall be collected as they are accumulated, using appropriate methods to enable their future removal from the site and disposal. All such waste materials shall be stored on site in approved secure confined area(s) until removed from site for disposal.

- All litter and waste materials shall be disposed of off the site, in accordance with Gold Coast City Council by-laws and other statutory requirements. All litter and waste materials in storage or in transit from the site shall be covered or otherwise handled to prevent any spillage or any other nuisance to the community or adjacent residents.

PERFORMANCE INDICATOR:

- All waste materials on site are managed in an appropriate manner and materials that can be recycled are separated and re used.

MONITORING:

- All litter and waste materials shall be removed from the site on a regular basis. The Contractor shall monitor the construction and record details of work areas, fencing and access roads.
- The Contractor shall conduct weekly inspections of the site to verify locations and storage of litter and waste on the site.

REPORTING:

- Monthly reports for non conformances to the Superintendent (copies to Gold Coast City Council and Environmental Protection Agency) on monitoring and reporting all litter disposal activities. Monthly reporting by the Contractor to the Superintendent (copies to Gold Coast City Council and Environmental Protection Agency), detailing any changes from the approved Work Plan and recording details of operations outside the work area and access roads.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register. The Contractor shall implement the following corrective action.
- Storage and removal of all litter and waste to the satisfaction of the Superintendent. Adequate delineation of working areas to the satisfaction of the Superintendent.

3.1.6 ELEMENT No C6: Noise Control

POLICY:

- To minimise the impact of noise during the construction phase on the local community.

PERFORMANCE OBJECTIVES:

- To comply with the Environmental Protection Act, Gold Coast City Council By-Laws, the Environmental Protection (Interim) Regulations, and recognised noise criteria as contained in Environmental Guideline E1 "Noise from Construction, Reconstruction, Maintenance and Demolition Sites".

CONTROL MEASURES:

- The Contractor shall establish a Noise Control Plan to the satisfaction of the Superintendent, to prevent noise levels that would be an annoyance to the community. All noise generating plant and equipment, and processes shall be controlled to minimise noise emission in accordance with AS 2436.

- Control measures shall include:
  - (i) The fitting of effective residential grade exhaust silencers to all mobile plant.
  - (ii) The fitting of engine acoustic shielding.
  - (iii) Using exhaust silencers on compressed air exhausts.
  - (iv) Working within approved working times.

- Lighting devices shall be used instead of whistles, bells and buzzers to control site operations unless audible alarms are required for safety purposes, including mandates of the Workplace Health and Safety Act.

- Working hours on site shall comply with Environmental Protection Agency Environmental Guideline E1, and Gold Coast City Council By-Laws and Policies.

PERFORMANCE INDICATOR:

- No noise complaints received in relation to on site construction works.

MONITORING:

- Weekly inspections of all noise producing sources (including inspection of new items before they commence work on the site) to record details and compliance of sound control measures.

REPORTING:

- Monthly reports by the Contractor to the Superintendent (copies to Gold Coast City Council and Environmental Protection Agency) on the monitoring control measures and corrective action taken.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register. The Contractor shall implement the following corrective action:

- All activities utilising plant, equipment and processes producing excessive noise shall be stopped and remedial action taken to the satisfaction of the Superintendent. This may include a review of the times of operation of the plant.

3.1.7 ELEMENT No C7: Management of Existing Vegetation

POLICY:

- During the construction phase protect and retain all areas of vegetation and individual trees except for those specifically identified for removal.

PERFORMANCE OBJECTIVES:

- To ensure that contractors understand the requirements of protection and retention, and install protective devices to ensure no accidental damage occurs.
- To ensure that the clearing methodology is appropriate for the areas being cleared, especially in the vicinity of areas to be protected.
- To ensure that the work program is such as to minimise the time between when clearing occurs, and the cleared ground is stabilised.
- To ensure that cleared material is mulched or wood-chipped as appropriate, or disposed of in an approved manner. Any material to be reused on site shall be such that all weeds and exotic species are separated at source and disposed off site and not used as mulch.

CONTROL MEASURES:

- Inclusion of the Vegetation Management Plan within the Contract.
- Include specific reference to optional tree retention in addition to those areas to be definitely protected and retained, as per the Contract.
- Provide a mechanism of guarantee by the Contractor against culpable damage.
- Ensure protective devices are installed and maintained in functional condition, and,
- Monitor and report on the success of protection and retention, and the integrity of protective devices such as fences.

PERFORMANCE INDICATOR:

- The integrity of protection devices are maintained. Existing vegetation and trees retained in good health, with no scars from earthworks machines.

MONITORING:

- Monthly monitoring of vegetation by the Proponent's Botanist to determine:
  - (i) Integrity of protection devices
  - (ii) Existing vegetation and trees retained in good health, with no scars from earthworks machinery.

- Weekly inspection and log by the Contractor with reporting to the Superintendent.

REPORTING:

- The Proponent's Botanist will report monthly on retained vegetation in the development to the Superintendent, GCCC, and EPA.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register. The Contractor shall implement the following corrective action:

- Make good or replace any damage to trees or vegetation that are marked for protection and retention; reinstate protective devices

3.1.8 ELEMENT No C8: Protection of On Site Water Bodies and Currumbin Creek Environment

POLICY:

- To maintain and protect the integrity of on site water bodies, Currumbin Creek and associated riparian areas. To encourage the growth of indigenous species to stabilise disturbed areas within the buffer zone

PERFORMANCE OBJECTIVES:

- To promote the growth of suitable low maintenance indigenous vegetation along the common boundary between the developed area and the existing water body which is received by the Currumbin Creek.
- To physically deter people directly interfering with the waterway environment by limiting physical access.

CONTROL MEASURES:

- Encourage natural regeneration of indigenous species by mulching bare areas or planting with natives.
- Remove environmental weed species, on quarterly basis.
- Plant and maintain selected indigenous trees as per Landscape Master plan.
- Erection of signage prohibiting access.
- Observe sediment and erosion control measures, as described in the Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Site (IE Aust).

PERFORMANCE INDICATOR:

- Survival and spread of desired indigenous species.

MONITORING:

- Proponent's Botanist to carry out monthly inspection of buffer environment to determine survival and spread of desired indigenous species.

REPORTING:

- Monthly to Superintendent, GCCC, and EPA.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- The Contractor shall seek advice from the Proponent's Botanist regarding remedial works.

3.1.9 ELEMENT No C9: Visual Monitoring and Contingency Measures for High Algae Levels or Fish Kills in Wetlands and/or Drainage Channel

POLICY:

- To maintain healthy wetland ecosystem and to maintain algae levels below accepted threshold values for ecological protection of the wetland system and downstream creek system.

PERFORMANCE OBJECTIVES:

- To maintain a healthy wetland ecosystem with algae levels below levels which pose threats to the aquatic ecosystem.

CONTROL MEASURES:

- Establish emergent macrophytes as per the Landscape Intent Plan.

PERFORMANCE INDICATOR:

- No visual presence of algae (especially blue-green species) and fish / aquatic fauna intact.

MONITORING:

- Weekly monitoring of wetlands and drainage channels to:
  - (i) ensure healthy growth of macrophytes as per recommendations
  - (ii) ensure healthy numbers of aquatic fauna
  - (iii) investigate any apparent flushes of algal growth
  - (iv) Investigate any apparent kills of fish or other fauna

REPORTING:

- Monthly reporting to the Superintendent, GCCC, and EPA. For non-conformities, notify Superintendent immediately.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register. The Contractor shall implement the following corrective action:
  - (i) Investigate possible source of pollutants or conditions leading to the non-conformance.
  - (ii) Trace the non-conformance back to the source, and isolate same until problem resolved. This may involve plugging out-falls or locally increasing bunding where required.
  - (iii) Check the nutrient/pollutant levels in the wetland by sample and analysis to confirm the site of the non-conformance.

(iv) Physically remove algae form water surface when apparent, using one of the approved methods, in order of preference:

- Physical removal using nets, etc.
- In the event that physical removal of algae is not practical or is only partially successful, consideration may be given to flocculation of the water using a proprietary flocculating agent. The spreading of such flocculent can be efficiently carried out by feeding the powder into the propeiler of a small outboard motor on the back of a dinghy. The use of flocculants should only be undertaken with the permission of GCCC.

(v) Re-instate any lateral damage to macrophytes, including re-planting if necessary.

(vi) Amend operating procedure that led to pollutant non-conformance.

(vii) If source is off-site, advise GCCC and liaise to correct problem.

(viii) If necessary, liaise with development community and provide educational material.

3.1.10 ELEMENT No C10: Protection of On-site Fauna

POLICY:

- To minimise and mitigate the effect of vegetation clearing on existing site fauna, during clearing operations and the balance of construction period.

PERFORMANCE OBJECTIVES:

- All fauna observed on site are protected

CONTROL MEASURES:

- Accept and apply the SBMP guidelines as required; ensure this issue is understood by all site machine operators and supervisors.
- Ensure site machine operators are aware of the possibility of fauna being present on-site during and subsequent to clearing operations, and are 'looking out for' individual animals.
- Qualified "fauna spotter" to be on site during clearing operations at all times.
- Clear vegetation only in approved areas, staging in such a way that fauna are directed to safe areas.
- Orphaned or injured fauna to be reported to QNPWS on tel 3202 0200
- If fauna are observed, undertake GCCC-approved protocols such as those for koalas, or appropriate for the particular species encountered.
- Construction personnel shall not attempt to capture or handle any wildlife

PERFORMANCE INDICATOR:

- All fauna on site are protected.

MONITORING:

- Contractor to record all fauna observations and result of encounter on weekly basis

REPORTING:

- All Stages to the Superintendent. Any non-conformance and all monitoring shall be notified to GCCC and EPA.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Contractor shall investigate non-conformance; implement changes to work practice to ensure same incident is not repeated to the satisfaction of the Superintendent; caution person involved and re-train for SBMP understanding

3.1.11 ELEMENT No C11: Fauna Habitat Protection and Management

POLICY:

- To minimise the impacts of construction and protect habitat of rare and threatened flora and fauna species on site.

PERFORMANCE OBJECTIVES:

- To encourage the indigenous fauna populations to increase at a natural rate to a desired level of species richness on the site and adjacent waterways, and in particular,
- To protect the *Rare and Threatened Flora and Fauna species* by special attention to their Species Conservation Management Plans as outlined in the Open Space and Vegetation Management Plan.

CONTROL MEASURES:

- Install approved landscape works to Residential Development and Golf Course to encourage high quality habitat for indigenous species on and near site.
- Maintain known and proposed *Rare and Threatened species* habitat in keeping with the Conservation Management Plan.
- Monitor populations at quarterly intervals, according to pro-forma below:-
  - (i) Complete and maintain works as per Landscape documentation.
  - (ii) Install vegetated edge to swales and waterway according to approved Landscape Plans.
  - (iii) Monitor fauna species presence on three-monthly basis at appropriate times and during appropriate weather (ie wet weather for the amphibians).
  - (iv) Remove introduced species as required.

PERFORMANCE INDICATOR:

- There is no discernible impact on the habitat of the rare and threatened species during construction of the development.
- Visible species richness and biodiversity
- Lack of week and feral species present
- Fauna presence with desired species richness

MONITORING

- Weekly inspection by Responsible Person; three-monthly survey by consultant to ensure no discernible impact on the habitat of the rare and threatened species during construction of the Residential Development and Golf Course.

REPORTING:

- The Contractor shall be responsible to the Superintendent, and any non-conformance and all monitoring shall be notified to GCCC; include in monthly and separable portion reports.

RESPONSIBLE PERSON:	• The contractor shall be responsible for performing the requirements within this element.
CORRECTIVE ACTION:	• Refer to consultant for investigation, if persistent non-conformance becomes clear

Draft Pro-forma for Monitoring *Rare and Threatened species* population, water quality and general ecological condition of Site

Note that three sites are to be selected for the specific measures, at the upstream, downstream and mid parts of the protected habitat section. The water quality measures are selected as being of importance to aquatic and amphibian fauna.

EVR = Endangered, Vulnerable or Rare species.

Person Conducting Site Inspection and Testing:
Date:
Description of weather (current):
(recent) :

Monitoring Data	**Site 1**	**Site 2**	**Site 3**
Water Quality – Clarity – secci disc depth (mm)			
pH			
Temperature ^{o}C			
Hardness (ppm)			
Comments			
Presence of EVR species abundance			
General comments on amphibian/aquatic species population in relation to water quality data			
Condition of Waterway vegetation			
Weed presence/abundance			
Indigenous species growth/condition			
Species Richness			
Other fauna observed (give details)			
Birds			
Mammals			
Reptiles			
Other groups of interest			
Change since previous report			
Other general comments			

3.1.12 ELEMENT No C12: Mosquito and Midge Management

POLICY:

- To control the mosquito and midge population at the source of their multiplication (within the water), by management measures during the construction phase.

PERFORMANCE OBJECTIVES:

- Mosquito population under tolerable threshold.
- Majority of fish released to control mosquitoes are thriving.
- Appearance of fry.

CONTROL MEASURES:

- Control measures will be implemented as follows:

(a) Inter-tidal Wetlands/drains

(i) Infilling of wheel ruts, poorly flushing drains, and clay pan concavities with sandy loam to limit ponding.

(ii) Removal of rubbish including car bodies.

(iii) The interconnecting of pools to the tidal source through shallow spoon drains.

(iv) Restriction of vehicular access

(b) Freshwater Wetlands

(i) Removal of marginal vegetation and rubbish.

(ii) Dredging to a graded depth of 1.5 metres, and removal of wind shielding vegetation from south-east boundary (subject to Council approval) to promote water circulation by wind movement.

(iii) Stocking with suitable native fish which are predatory on mosquito larvae, subject to advice from DPI (Fisheries) and the EPA..

(iv) Generating habitats (Predation shelves) for dragonfly larvae, aquatic beetles and frogs.

(v) Establishing cryptogams immediate to the water bodies, thereby creating habitat for predatory insects.

(vi) Providing benches for the harvesting of aquatic plants.

(c) Stormwater Treatment Ponds

(i) Management measures similar to Freshwater Wetlands.

(d) Ditches, Drains, Swales and Gutters

(i) Design parameters to ensure water does not pond for extended periods.

(ii) Bottom turfing of grass swales utilising grass species and cultivars which minimise scouring.

(iii) All must be free draining where required.

PERFORMANCE INDICATOR:

- Mosquito population under tolerable threshold.
- Majority of fish released are thriving.
- Appearance of fry.

MONITORING:

- Monthly inspection of water bodies by Proponent's Botanist.

REPORTING:

- To Superintendent and GCCC as required, include in compiled monthly and separable portion report.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Contractor to seek advice from Proponent's Botanist, and if appropriate, re-release fish.

3.1.13 ELEMENT No C13: Landscape Establishment Management

POLICY:

- To ensure the correct use of recommended fertilisers for the optimum survival of the downstream waterway environment and compliance with SBMP water quality guidelines.
- To educate the Contractor about the need to minimise fertiliser and other chemical use.
- To develop an environmentally sensitive chemical use regime and effective protocols for monitoring and reporting on this system during the construction phase.

PERFORMANCE OBJECTIVES:

- To create a healthy wetland system and drainage paths.
- Minimal evidence of any weed species.
- No algal blooms in wetlands or the drainage corridor, which are a result of construction practices.
- Compliance with chemical use policy and procedures, and accurate record-keeping.
- Maintenance of SBMP water quality targets.

CONTROL MEASURES:

- To effectively minimise the use of chemical substances on or near the wetland and creek systems, by:

  (i) Monitoring chemical use on all Stages, and correlate with other environmental values including biota and water quality; and/or include the chemical use regime as a major issue within the post-construction stage of all Stages.

  (ii) Approve only suitable products for use on all Stages, with low nitrogen and phosphorus formulae and slow release mechanisms.

  (iii) Educate the need for minimal use of chemical substances.

  (iv) Keep an auditable log of fertiliser and other chemical use.

  (v) Investigate the possible installation of automatic fertigation via the irrigation system, to increase the accuracy of dosing levels if appropriate.

(vi) During the 'growing-in' period of grass establishment, initiate and maintain monitoring of fertilising and concurrent event-based water quality sampling

PERFORMANCE INDICATOR:

- A healthy wetland system and retained integrity of aquatic environment.

MONITORING:

- As required, but at least monthly, by Proponent's Botanist.

REPORTING:

- Monthly and periodic reports to the Superintendent and to GCCC and EPA for any non-conformance.

RESPONSIBLE PERSON:

- The Residential Development and golf course superintendent as responsible person.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Contractor to reinforce the education program and re-issue relevant material to residents if non-conformance is within constructed wetland system not receiving run-off from Stages.
- If non-conformance is in Stages run-off, amend operational procedures for fertilising and/or irrigating.
- If persistent non-conformance occurs, advise the Superintendent immediately, and refer to the Proponent's Botanist for advice.

3.1.14 ELEMENT No C14: Air Quality

POLICY:

- To minimise the impact of construction activities on air quality

PERFORMANCE OBJECTIVES:

- To comply with the Environmental Protection Act, Gold Coast City Council By-Laws and the Environmental Protection (Interim) Regulations.

CONTROL MEASURES:

- The Contractor shall establish an Air Quality Control System, to the satisfaction of the Superintendent, prior to commencing work, to manage air quality control on the site. Air quality on site shall generally comply with Table C3 below and the following specific requirements

(i) FUMES - all equipment shall be efficient, operated in accordance with established operating procedures and maintained to minimise exhaust emissions. Engines shall not be left idling needlessly.

(ii) ODOURS - all materials (e.g. paints) or processes (e.g. painting) that generate fumes or odours shall be properly stored and used in efficient equipment to approved procedures.

(iii) DUST - dust control measures (e.g. water spraying, wood chip layers, wind breaks, etc) shall be used on all processes that generate dust.

Table C3
Recognised Air Quality Criteria as per Environmental Protection (Interim) Regulations 1995 - Dust Emission

PARAMETER	MAXIMUM ACCEPTABLE CONCENTRATION
24 hour average dust concentration	150 mg/m^3
Annual, 24 hour averaged dust concentration	90 mg/m^3
Dust deposition rate	120 $mg/m^2/day$

PERFORMANCE INDICATOR:	• All air quality parameter targets are maintained. • No complaints received.
MONITORING:	• Weekly inspections of the site by the Contractor to record types, locations and details of control measures in place. Daily inspections of the site by the Contractor to record effectiveness of control measures in place. • Recording by the Contractor of all air quality complaints received and details of all control measures undertaken
REPORTING:	• Monthly reports by the Contractor to the Superintendent (copies to Gold Coast City Council and Environmental Protection Agency) on the monitoring activities, control measures and corrective action undertaken
RESPONSIBLE PERSON:	• The contractor shall be responsible for performing the requirements within this element.
CORRECTIVE ACTION:	• Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register. • If air quality reduction occurs outside the site boundary activities impacting adversely on air quality shall cease and additional control measures will be applied by the Contractor to the satisfaction of the Superintendent. A reduction in air quality will be defined when two (2) or more valid air quality complaints are received by the Contractor or Consultant, from adjacent residents.

3.1.15 ELEMENT No C15: Acid Sulfate Soils

POLICY:

It has been determined that parts of the subject site have high acid sulfate soil potential. A detailed acid sulfate soil investigation in accordance with local and state regulatory standards will be conducted to determine the extent of potential acid sulfate soils. Based on investigation results an Acid Sulfate Soils Management Plan shall be developed.

The Acid Sulfate Soils Management Plan provides information on the following:

- Performance Objectives
- Control Measures
- Performance Indicator
- Monitoring
- Reporting
- Responsible Person
- Corrective Action

3.1.16 ELEMENT No C16: Open Space Management Plan

POLICY:

- The Open Space Management Plan for the development refers to open space that is intended for traditional neighborhood and district park facilities.
- Issues/requirements are addressed in detail in the Open Space Management Plan developed by Yurrah Pty Ltd reference should be made to this document.

3.1.17 ELEMENT No C17: Bushfire Risk Assessment and Mitigation Plan

POLICY:	• The Fire management plan for the Gold Coast Golf Resort Currumbin is developed to provide information on the methodology in managing bushfire, to assist in protecting life, property and the environmental values of the project as a whole. • Fire mitigation and management techniques are detailed in the Bushfire Risk Assessment and Mitigation Plan recommendations developed by Bushland Protection Systems which is provided in Appendix B of this report.
PERFORMANCE OBJECTIVES:	• To protect property and inhabitants from potential bushfire risks
CONTROL MEASURES:	• Reduction of fuel loads surrounding houses; • Maintenance of fire breaks • Flammable material kept clear of house • Clearing of leaf litter in gutters • Windows and vents shut during bush fires
PERFORMANCE INDICATOR:	• Body Corporate to document non-conformances
MONITORING:	• Six monthly inspection of radiation zones for fuel load and vegetation maintenance requirements
REPORTING:	• Reduction zones managed and maintained
RESPONSIBLE PERSON:	• The Contractor during the construction period.
CORRECTIVE ACTION:	• All corrective actions should be in accordance with the Bushfire Risk Assessment and Mitigation Plan.

3.1.18 ELEMENT No C18: Lighting

POLICY:	• To minimise the impact of lighting on the local environment during the construction phase.
PERFORMANCE OBJECTIVES:	• To achieve no significant visual impact from lighting.
CONTROL MEASURES:	• All construction site lighting shall be provided with hoods to prevent direct light transmission outside the site.
	• Lighting shall not be excessive in quantity or intensity.
	• Lighting shall be turned off when not required.
PERFORMANCE INDICATOR:	• No complaints received.
MONITORING:	• The Contractor shall maintain details of all lighting on the site.
REPORTING:	• Monthly reports to the Superintendent (copies to Gold Coast City Council and Environmental Protection Agency) on the monitoring, control measures and corrective action.
RESPONSIBLE PERSON:	• The contractor shall be responsible for performing the requirements within this element.
CORRECTIVE ACTION:	• Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
	• All non-conforming lighting shall be rectified or removed from the site to the satisfaction of the Superintendent.

3.1.19 ELEMENT No C19: Site Restoration

POLICY:

- To revegetate the exposed earth areas formed during the construction phase.

PERFORMANCE OBJECTIVES:

- No part of the site is to be left un-restored following completion of works on that part of the site.
- Complete restoration of the site in accordance with the approved Landscape and Open Space Management Plan.

CONTROL MEASURES:

- The Contractor shall restore the site progressively following completion of sections of the works. Soil erosion and sediment control measures shall remain in place until full grass cover is achieved over all earth areas.
- All construction plant shall be cleaned prior to transportation onto the site to prevent the introduction of exotic species.

PERFORMANCE INDICATOR:

- All areas of disturbance are revegetated and maintained.

MONITORING:

- The Contractor shall monitor site restoration and record details of site restoration works carried out.

REPORTING:

- Monthly reporting by the Contractor to the Superintendent (copies to Gold Coast City Council and Environmental Protection Agency) covering all monitoring activities.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Restoration shall be carried out by the Contractor, as specified, to the satisfaction of the Superintendent.

3.1.20 ELEMENT No C20: Capture of Nutrients in Wetland System

POLICY:

- To augment existing wetlands and construct new wetland systems.
- To maintain the biological integrity of the receiving water bodies in respect to the capture of nutrients.

PERFORMANCE OBJECTIVES:

- To ensure the levels of nutrients which naturally enter the wetland system are effectively able to be captured by natural means.
- Water quality of discharge from the wetland will comply with the GCCC target annual mean values of pollutants.

CONTROL MEASURES:

- To selectively plant and establish sufficient emergent macrophytes once the new water body shape is achieved, and effectively monitor their growth.
- Inspect growth and establishment of newly-planted macrophytes.
- Remove excessive macrophyte growth and adjust numbers (only if required)

PERFORMANCE INDICATOR:

- A healthy wetland system post construction.

MONITORING:

- Minimal weed species evident
- Monitoring: monthly during maintenance period.
- Harvesting on annual basis only if required.

REPORTING:

- The Contractor shall be responsible to Residential Development and Golf Course Construction Manager and GCCC as required, and include in compiled monthly and separable portion reports.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Replace dead or dying macrophytes and monitor as required.
- Remove unwanted species, or those that are accidentally introduced by waterbirds.
- Seek advice from specialist Consultant

3.1.21 ELEMENT No C21: Recycled Water Use for Irrigation

POLICY:

- To reduce the use of potable water during the construction phase of the golf course and residential development recycled water shall be used for dust control and irrigation of newly grassed areas.

PERFORMANCE OBJECTIVES:

- To ensure use recycled water during the construction phase of this project so it does not adversely affect the receiving environment or human health.
- To construct and stabilise the delivery system and reservoir with Best Management Practice to ensure storage area is not impacted by nutrient build-up, or affected by flood events less than Q_{10}.
- To ensure the nutrient content of the recycled water is monitored, and taken into account when calculating the fertiliser dosage rates for the residential development and golf course. These rates are to be monitored during the 'growing-in' period, and compared with event-based water quality sampling at the relevant sample outlets.
- To ensure the irrigation system controller is set such that no run-off occurs from irrigation. A 'low precipitation/frequent start' regime, also known as a multiple run and soak cycle, is to be used.
- To provide specific training, for all construction staff where the observations of wet spots due to over-watering, or run-off from the system, or faults or leaks in the system, will be reported immediately to the Superintendent.
- To include the monitoring of the system controller alarms in the job description of the Superintendent or, in his absence, a specifically appointed alternative responsible person.

CONTROL MEASURES:

- To incorporate the above objectives in the construction contract for the golf course construction and residential development where appropriate.
- To liaise with the Council suppliers of recycled water to supply monitored nutrient status.
- Inspect recycled water reservoir weekly for signs of algal growth and general stability.
- Record nutrient levels in recycled water as supplied by Council.
- Retain records of calculation for the fertiliser dosage rates by the Contractor.

- Log all observations of accidental irrigation run-off, and subsequent alterations to timing and frequency of watering program.

PERFORMANCE INDICATOR:

- A reliable consistent supply of recycled water.

MONITORING:

- Healthy reservoir, with low algal levels.
- Nutrient status in recycled water not exceeding forecast levels
- Against the terms and conditions of the recycled water use agreement entered into with GCCC.
- No accidental irrigation water run-off.
- Weekly for establishment period; as required.

REPORTING:

- The Residential Development and Golf Course Superintendent as Responsible Person.

RESPONSIBLE PERSON:

- To Responsible Person in agreement and GCCC on as regular basis as required in the agreement.

CORRECTIVE ACTION

- Reassessment of the problem and draft a new management strategy if required. This may include in the short term:

  (ii) Reduction in watering times, or increase in time between starts;

  (iii) Reduction in amounts of fertiliser used, or change in fertiliser type to slower-release formula; and/or

  (iv) Diversion of drainage from any problem areas to 'nutrient sinks' designed as part of landscape tree plantings, before eventual outfall to the drainage path.

3.1.22 ELEMENT No C22: Cultural Heritage

POLICY:

- Construction activities have the potential to cause damage to sites and objects of cultural heritage significance.

PERFORMANCE OBJECTIVES:

- To meet the legal requirement and community expectations for the appropriate management of sites, items or places of cultural heritage significance.
- To recognise and protect the value, meaning and significance of cultural heritage sites, places and landscapes for present and future communities.
- To ensure all cultural heritage sites, places and landscapes, both known and unknown, are identified and managed appropriately.
- To ensure appropriate monitoring actions and procedures are undertaken.
- To mitigate, potential construction impacts to cultural heritage objects, sites and places.

CONTROL MEASURES:

- The Principal shall be responsible for a cultural heritage assessment which shall include checks of cultural heritage registers maintained by the Environmental Protection Agency, and should account for Aboriginal, archaeological and historical sites, items and places.
- All personnel working on the site shall attend a site induction briefing, which will include information relating to the SBMP - Cultural Heritage.
- All staff shall be made aware of the aims and roles of the SBMP – Cultural Heritage.
- Recognised cultural heritage experts (including an archaeologist) shall attend the site during all excavation phases of construction.
- All construction protocols and reporting responsibilities shall be in accordance with the accompanying Cultural Heritage protocol flow charts.
- If valuable minerals, fossils, anthropological, archaeological, or the like are found by an attending expert, the construction activity shall cease immediately; the Principal appointed site archaeologist will be called to attend the site so that all material can be identified.
- A buffer zone shall be marked around the find, while expert excavation and/or collection is undertaken.

- A course of management of the find shall be designed; this may include removing construction machinery away from the find to another suitable construction zone.

- In the event that a site, item or place of cultural heritage significance is found during the course of construction works, the following protocol shall be observed;

  (i) All work in the vicinity of the find will cease immediately;

  (ii) The find will be reported to the site supervisor;

  (iii) The Contractor will report the find immediately to the Principal; and

  (iv) The Principal will report the find to the Regional Manager, Cultural Heritage EPA (07 3225 8426).

- If material of potential valuable minerals, fossils, anthropological, archaeological or the like is found when expert monitoring is not occurring, the Contractor's machine operators will immediately stop work at the find site and take precautions to prevent their loss or removal or damage and notify the superintendent to attend the site of the find or discovery.

PERFORMANCE INDICATOR:

- No disturbance to any sites or objects of cultural heritage significance.

MONITORING:

- The Contractor shall monitor and audit construction staff's familiarity with procedures relating to archaeological finds. This is to be undertaken initially on a daily, weekly and monthly basis and then quarterly where construction is on-going.

REPORTING:

- The Contractor shall report in accordance with the flow charts accompanying this Site Based Management Plan.

RESPONSIBLE PERSON:

- The Contractor shall be responsible for reporting any finds of cultural significance to the Principal.

- The Principal shall be responsible for reporting any finds of cultural significance to the Environmental Protection Agency.

- The relevant utility services provider shall be responsible for works associated with the provision of utility services such as gas, electricity and telecommunications.

CORRECTIVE ACTION:

- The construction of the project shall be modified as required and the appropriate cultural heritage protocol be implemented to take into account sites or objects of cultural heritage significance identified during the construction phase.

3.1.23 ELEMENT No C23: Construction Activities on Steep Slopes

POLICY:

- The proposed allotment layout is generally intended to utilise the existing contours of the area, with minimal earthworks proposed to form the final design levels.
- The development will be staged. It is intended that the proposed works will be split into a number of stages in an effort to minimise the area exposed by construction at any one time.
- During the construction phase the site is generally considered a high erosion risk due to the existing grades across the site on the eastern areas above the Q100 design flood level.
- Emphasis shall be placed on source control of erosion by retaining vegetation for as long as practical and revegetating disturbed areas as soon as possible.
- Prior to finalisation of detailed design and construction commencing on site, where necessary additional geotechnical assessment shall be undertaken by suitably qualified persons. These assessments shall include specific interpretation of site investigation and recommended construction management techniques to minimise potential landslip / landslide occurrence.
- Reference shall be made to all geotechnical reports relating to the site, particularly site landslip / landslide analysis.
- Compliance with the relevant requirements of the State Planning Policy Guideline - Mitigating the Adverse Impacts of Flood, Bushfire and Landslide, June 2003 (Queensland Government).

PERFORMANCE OBJECTIVES:

- To avoid detrimental impact on the water quality and aquatic environment of the downstream catchment, as a result of the discharge of high sediment content stormwater runoff.
- To minimise the impact of construction activity on water quality within water bodies external to the site, and to protect the biological integrity of the aquatic ecosystem.
- To minimise the impact of construction activity to influence a landslip / landslide event.
- To comply with the Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Site (IE Aust).
- Site runoff during construction will be controlled by the devices shown on Weathered Howe Standard Drawing G03158E-A19 attached in Appendix D of this report. Proposed devices include

sedimentation ponds, sediment filter fencing, perimeter bunds, catch drains, check dams, overflow for haul roads and temporary culverts. A shakedown device will be located at the entrance to the site.

- The proposed devices are to be installed prior to construction and maintained until completion of construction or as long as practical.

- It is intended that the majority of runoff from the construction area will be directed to the sedimentation ponds for treatment. This will be achieved by ensuring the site grades to the sedimentation pond, and that the catch drains and check dams control and convey the flow of water from surface runoff down the steeper grades. Runoff will then flow from the sedimentation ponds after treatment to the existing on site drain.

- To reduce re-suspension of suspended solids and scour, the catch drains are to have rock check dams installed.

- Measures will be taken to reduce the runoff from the surrounding vegetated areas will be diverted around the construction area and be allowed to continue along the natural watercourse unaffected.

- Measures will be taken to minimise potential impact of landslip / landslide.

CONTROL MEASURES:

- All erosion and sediment controls must be operated in accordance with the ESCP and maintained to be fully operational at all times. Worn, damaged or otherwise defective materials and components are to be repaired, refurbished or replaced as they become ineffective for their design purpose.

- All surface runoff shall be directed to the sediment ponds to prevent sediment transport from the site. Temporary control measures include:

  (i) temporary sedimentation basin
  (ii) temporary silt fences
  (iii) controls on amount of open ground
  (iv) catch drains
  (v) check drains
  (vi) temporary overflow crossings
  (vii) temporary culverts

- The control devices listed above and shown on the mentioned figures are the minimum requirements. The Contractor shall install whatever measures are considered necessary to minimise the impact of construction activities on the surrounding environment.

- Compliance with the geotechnical engineers recommendation in relation to construction activities to minimise the potential for landslip / landslide.

- Permanent stormwater treatment measures shall be provided as soon as possible after completion of each construction area.

- All sediment control structures must be operated and maintained in an effective operational condition.

MONITORING:

- Regular on site monitoring of discharge water quality shall be required. Such monitoring, to be undertaken by the contractor.

- Refer to the Water Quality Monitoring Program for further details.

- A self auditing programme must be developed for the site. A site inspection must be undertaken by the contractor:

  (i) at least each week
  (ii) immediately before site closure
  (iii) immediately following rainfall events that cause runoff.

- Signed, completed self audits, original test results, weekly and other result sheets shall be kept on site and are to be available on request to Council officers and other relevant statutory authorities. All records are to be maintained in a form suitable for Council submission.

REPORTING: The Contractor shall prepare monthly reports to be presented to the Superintendent on all requirements of this element.

RESPONSIBLE PERSON: The Contractor shall be responsible for meeting all requirements of this element.

CORRECTIVE ACTION:

- Non compliance with this element and approved drawings must be dealt with immediately. If there is a breach or infringement of the plan or conditions, action will be taken consistent with the nature and seriousness of the breach or infringement. Action may include:

  (i) issue of "stop work notice"
  (ii) a fine under the provisions of the Protection of the Environment Operations Act 1997
  (iii) notice to comply pending reinspection of the site.
  (iv) inspection of the site by a suitably qualified geotechnical engineer appointed by the Principal.

3.2 OPERATIONAL STAGE

The following elements apply to the operational phase of the development, which is that period from substantial completion of construction to the end of the on-maintenance period.

3.2.1 ELEMENT No 01: Stormwater Management Plan

POLICY: To minimise the impact of the development on water quality within water bodies internal and external to the site, and to protect the biological integrity of the aquatic ecosystem. Also to prevent environmental harm from occurring.

PERFORMANCE OBJECTIVES:

- To avoid detrimental impact on the water quality and aquatic environment of the downstream catchment.
- To comply with the Environmental Protection Act and subordinate Environmental Protection (Water) Policy (1997), Environmental Protection Agency requirements, relevant Gold Coast City Council bylaws and health and safety requirements.
- Water exiting the site is to meet the objectives outlined in Table 03.

Table 03
Performance Objectives for Discharged Waters

Pollutant	Objective
Suspended Solids	15mg/L median for wet and dry periods 100mg/L 90th%ile for wet periods
Total Phosphorus	70ug/L median for wet and dry periods
Total Nitrogen	650ug/L median for wet and dry periods
Litter	No anthropogenic material greater than 5mm
Hydrocarbons, motor fuels, oils and grease	No visible films or odours

* Baseline test results have been taken in Currumbin Creek adjacent to site.

CONTROL MEASURES:

- The proposed development of the site will involve works which will rehabilitate the site. Majority of the site will be either grassed or landscaped.
- In addition to the above the following best management practices will be implemented to improve the quality of stormwater discharge from the current condition.
  - (i) Roof water will be discharged directly into the stormwater system, thus reducing the volume of stormwater runoff from the site.
  - (ii) A proprietary stormwater quality treatment device will be installed at the outlet of the stormwater system.

There are a number of devices that could be used for this purpose, which are described below:

Table 04
Stormwater Treatment Device Features

Stormwater Treatment Device	Key Features
Humeceptor (CSR)	• Capable of removing up to 80% of the total sediment load when properly applied as a source control for small areas • Removes up to 97.8% of free oil from stormwater • Will not scour or re-suspend trapped pollutants even during peak flows • Humeceptors can remove up to 20% of the nutrients
CDS Unit	• CDC units can remove up to: • 100% of gross pollutants • 99% organic material • 98% oil and grease • 98% sediments • 80% TSS • 80% heavy metals • 80% TP utilising various screens and designs.
Cleansall (Rocla)	• capture of more than 95% of all gross pollutants greater than 3mm • capture of more than 95% of all free oils and grease • capture of significant quantities of sediments • unique design prevents remobilisation or over topping of captured pollutants

Selection of which device is to be used will be made at the time of detailed engineering design for the project.

PERFORMANCE INDICATOR:

- Water quality monitoring results meeting discharge performance objectives and off site discharge generally improved water quality.

MONITORING:

- Following the construction phase, monitoring of the stormwater treatment devices will be undertaken as shown in Table 05.

Table 05
Monitoring Program for Gross Pollutant Traps

TIME FRAME (after construction)	MONITORING ACTIVITY	FREQUENCY
0-6 months	• Discharge water quality	Once in period
	• Debris/litter in trash rack, blockages	After major storm events
	• Structural integrity of GPT	Every 3 months
	• Course sediment accumulation	Every 3 months
	• Odour	Every 3 months
> 6 months	• Debris/litter in trash rack, blockages	After major storm events and/or every 3 months
	• Structural condition	Annually
	• Course sediment accumulation	Every 3 months
	• Odour	Every 3 months

The ongoing performance of the treatment devices will be dependent on the maintenance conducted.

The maintenance program detailed in Table 06 is to be implemented for the primary stormwater treatment devices.

Table 06
Monitoring Program for Gross Pollutant Traps

TIME FRAME	MAINTENANCE ACTIVITY	FREQUENCY
0-6 months	• Clean out trash racks	Every 3 months, as required
	• Remove sediment/litter	Every 3 months, as required
>6 months	• Clean out trash racks	Every 3 months, as required
	• Remove sediment/litter	Every 3 months, as required

REPORTING:
- A report shall be prepared and submitted to Council at the end of the first six months regarding the monitoring carried out.

RESPONSIBLE PERSON:
- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:
- When water quality objectives are not met investigation into cause and source of pollutants is to be investigated and remedial action taken.

3.2.2 ELEMENT No 02: Infrastructure

POLICY:

To maintain all infrastructure to retain serviceability and achieve its design working life.

PERFORMANCE OBJECTIVES:

- To maintain the completed development in a condition suitable for its intended purpose.

CONTROL MEASURES:

- Routine and extraordinary maintenance as required by the nature of any deterioration. Replacement of elements as necessary, in accordance with Local Government guidelines, State and National requirements.
- Maintenance of stormwater pipe drains and outlets, screens and stormwater quality improvement devices as required.

PERFORMANCE INDICATOR:

- That all infrastructure performs as designed.

MONITORING:

- Inspections to record the status of the visible components by the Contractor at six monthly intervals during the maintenance period. Following the maintenance period inspection by a representative of the Body Corporate for Body Corporate areas
- Council is responsible in public areas.
- Assessment of condition of civil, electrical and mechanical works, in accordance with the Gold Coast City Council's Asset Management System for public assets and the approved suppliers operating manual.
- Monitoring will be the responsibility of the body corporate after the post-construction period for respective body corporate land.

REPORTING:

- Six monthly reporting by the Contractor to the Superintendent during the maintenance period. Following the maintenance period annual reporting to the Body Corporate for Body Corporate areas.
- For public areas reporting should be to GCCC in accordance with Council's Asset Management System.

RESPONSIBLE PERSON:

- The contractor shall be responsible for performing the requirements within this element.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Repair and maintenance of exposed elements
- For public assets as required (e.g. parks and gardens, sewage pump stations etc) to the satisfaction of the GCCC.

3.2.3 ELEMENT No 03: Open Space Management Plan

The Open Space Management Plan for development refers to open space that is intended for traditional neighborhood and district park facilities.

Issues/requirements are addressed in detail in the Open Space Management Plan developed by Yurrah Pty Ltd, reference should be made to this report.

3.2.4 ELEMENT No 04: Bushfire Risk Assessment and Mitigation Plan

POLICY:	• The Fire management plan for the Gold Coast Golf Resort Currumbin, is developed to provide information on the methodology in managing bushfire, to assist in protecting life, property and the environmental values of the project as a whole. • Fire mitigation and management techniques are detailed in the Bushfire Risk Assessment and Mitigation Plan recommendations developed by Bushland Protection Systems which is provided in Appendix B of this report.
PERFORMANCE OBJECTIVES:	• To protect property and inhabitants from potential bushfire risks
CONTROL MEASURES:	• Reduction of fuel loads surrounding houses; • Maintenance of fire breaks • Flammable material kept clear of house • Clearing of leaf litter in gutters • Windows and vents shut during bush fires
PERFORMANCE INDICATOR:	• Body Corporate to document non-conformances
MONITORING:	• Six monthly inspection of radiation zones for fuel load and vegetation maintenance requirements
REPORTING:	• Reduction zones managed and maintained
RESPONSIBLE PERSON:	• The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.
CORRECTIVE ACTION:	• All corrective actions should be in accordance with the Bushfire Risk Assessment and Mitigation Plan.

3.2.5 ELEMENT No 05: Water Quality Management

Water Quality Management for the subject site shall be continued during the operational stage of the project for a nominated period. Details of the post construction water quality management described in this SBMP.

POLICY:

- To monitor the water quality within Currumbin Creek, the internal watercourse and the nominated groundwater locations in order to determine if there are any impacts from the development.

PERFORMANCE OBJECTIVES:

- Corrective action is to be undertaken should the water quality in Currumbin Creek exceed the following development limits in Table 1, as a direct impact from the development.

TABLE 1 PERFORMANCE OBJECTIVES

Parameter	Units	Baseline Range	Development Limits
pH		6.5-8.0	Baseline +/- 10%
SS	mg/L	15-100	Baseline +/- 10%
EC	µS	25.41-52.7	Baseline +/- 10%
DO	mg/L	6.0-8.5	Baseline +/- 10%
Temp	°C	24.84-30.18	Baseline +/- 10%
Total Phosphorus	mg/L	0.037-0.198	Baseline +/- 10%
Total Nitrogen	mg/L	0.27-1.10	Baseline +/- 10%
Fe	mg/L	0.45-7.2	Baseline +/- 10%
Al	mg/L	0.2-3.5	Baseline +/- 10%

CONTROL MEASURES:

- Control measures to reduce the sites impact on water quality are outlined in the Stormwater Management Plan and ESCP of this report.

TABLE 2

*Post-Construction	Ground waters	MB1, MB2, MB3, MB4, MB5, MB6	pH, EC, DO, Temp, Fe, Al, TP, TN	Monthly for first six months
	Surface waters	SW1, SW2, SW3, SW4	pH, EC, PO, Temp, SS, Fe, Al, TP, TN	>25mm rainfall events

PERFORMANCE INDICATOR:	• Water quality results should be maintained within baseline ranges.
MONITORING:	As per Table 2 of this element
REPORTING:	• Quarterly reports after completion of the development will be prepared and submitted to Council for a six month period.
RESPONSIBLE PERSON:	• The principal consultant will be responsible for performing requirements of this element.
CORRECTIVE ACTION:	• Should it be found that the development has caused a decline in water quality, corrective action shall be undertaken in consultation with Council

3.2.6 ELEMENT No 06: Protection of Currumbin Creek Environment

POLICY:

- To promote the growth of suitable low maintenance indigenous riparian plants along the on-site perimeter of the Currumbin Creek and northern boundary of the site.
- To physically deter people directly interfering with the waterway environment by limiting physical access.

PERFORMANCE OBJECTIVES:

- Survival and spread of desired indigenous species.

CONTROL MEASURES:

- To encourage the growth of indigenous species to stabilise creek banks.
- Encourage natural regeneration of indigenous species by mulching or plantive with natives of bare areas.
- Remove environmental weed species, on quarterly basis.
- Plant and maintain selected indigenous trees as per Landscape Masterplan.
- Erection of signage limiting access.

PERFORMANCE INDICATOR:

- Survival and spread of desired indigenous species.

MONITORING:

- Botanist to carry out six monthly review of buffer environment during construction and for the maintenance period. Following the maintenance period an annual review should be undertaken by a Botanist appointed by the Body Corporate and Council for the Body Corporate Areas & Public Areas respectively.
- Monitoring will be the responsibility of the body corporate and GCCC after the maintenance period for respective body corporate land and public land.

REPORTING:

- Annually and GCCC during construction and the maintenance period.
- Six monthly reporting during the maintenance period. Following the maintenance period annual reporting to the Body Corporate for Body Corporate areas.
- For public areas reporting should be to GCCC in accordance with Council's requirements.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Seek advice from a specialist Botanist.

3.2.7 ELEMENT No 07: Landscape Maintenance and Control

POLICY:

- To ensure that the all landscaping maintenance activities on all stages of the development including the golf course are undertaken with an appreciation of their potentially negative impact on the environment.
- To educate all maintenance staff in the major environmental issues for this site, including protection of water quality in the drainage channels, and protection of fauna habitat for indigenous species.
- To develop maintenance systems that are appropriate to this environment, are sustainable, and do not pollute.

PERFORMANCE OBJECTIVES:

- A healthy wetland system and drainage paths.
- Minimal evidence of any weed species.
- No algal blooms in wetlands or the drainage corridor, which can be attributed to on-site practices.
- Compliance with chemical use policy and procedures, and accurate record-keeping.
- Maintenance of GCCC water quality targets.

CONTROL MEASURES:

- To carry out landscaping maintenance using procedures which keep the amounts of chemicals including fertilisers, and biocides to a minimum.
- Local Government landscape management guidelines, if available, should be observed.

PERFORMANCE INDICATOR:

- Monthly reports are retrieved from the field.
- No external complaints received
- Non conformances have been reported immediately as required

MONITORING:

- As required, but at least monthly, by a specialist Botanist during construction and quarterly during the maintenance period.
- Following the maintenance period monitoring will be the responsibility of the body corporate and GCCC period for respective body corporate land and public land.

REPORTING:

- Six monthly reporting by the Contractor during the maintenance period. Following the maintenance period annual reporting to the Body Corporate for Body Corporate areas. For public areas reporting should be to GCCC in accordance with Council's requirements.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register
- Seek advice from specialist Botanist for body corporate land, for a reassessment of the problem and a new management strategy drafted if required.

3.2.8 ELEMENT No 08: Long Term Weed Control

POLICY:

- To control exotic weeds in the long term, and ensure the survival of indigenous species free from competition with weeds.

PERFORMANCE OBJECTIVES:

- Reduction of the amount of weeds visible
- Reduced growth of new weed plants
- Increased growth of native plants
- Increased habitat diversity

CONTROL MEASURES:

- Reduce the number of weeds using environmentally-sensitive, appropriate manual, chemical or biological methods. No chemicals to be sprayed in riparian zone!
- Removal/ treatment of exotic and declared weed species on regular basis
- Education of staff regarding weed identification
- Weekly monitoring of riparian areas and wetlands for appearance of unwanted weed species.

PERFORMANCE INDICATOR:

- Reduction of the amount of weed and increase of native plant growth

MONITORING:

- As required, but at least monthly, by Proponent's Botanist during construction and quarterly during the maintenance period.
- Following the maintenance period monitoring will be the responsibility of the body corporate and GCCC for respective body corporate land and public land.

REPORTING:

- Six monthly reporting by the Contractor to the Superintendent during the maintenance period. Following the maintenance period annual reporting to the Body Corporate for Body Corporate areas. For public areas reporting should be to GCCC in accordance with Council's requirements.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Seek advice from specialist Botanist on body corporate land. Contractor may be required to increase frequency of weed removal; replant with indigenous species if gaps appear in plant canopy.

3.2.9 ELEMENT No 09: Management Strategy for Control of Mosquitoes and Midges on Constructed Wetlands.

POLICY:

- To control the mosquito and midge population at the source of their multiplication (within the water), by management measures including the stocking of ponds with native fish if possible (eg. Pacific Blue-eye).

PERFORMANCE OBJECTIVES:

- Mosquito population under tolerable threshold.
- Majority of fish released for mosquito control are thriving.
- Appearance of fry.

CONTROL MEASURES:

- Control measures will be implemented as follows:
- Removal of marginal vegetation and rubbish
- Stocking with suitable native fish which are predatory on mosquito larvae, subject to advice from DPI (Fisheries) and the EPA.
- Generating habitats (Predation shelves) for dragonfly larvae, aquatic beetles and frogs.
- Establishing cryptogams immediate to the water bodies, thereby creating habitat for predatory insects.
- Providing benches for the harvesting of aquatic plants.

PERFORMANCE INDICATOR:

- Mosquito population under tolerable control

MONITORING:

- At least monthly, or in response to complaints, by Proponent's Botanist on body corporate land during the maintenance period.
- Following the maintenance period monitoring should be undertaken by a qualified consultant on an annual basis for Body Corporate Land.
- Monitoring of public land will be the responsibility of GCCC.

REPORTING:

- To superintendent and GCCC quarterly or as required during the maintenance period.
- Following the maintenance period annual reporting to the Body Corporate for Body Corporate areas. For public areas reporting should be in accordance with GCCC standard practice.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Non-conformance with this plan shall be documented and a corrective action request (CAR) issued. All CAR's shall be included in the non-conformance register.
- Seek advice from a specialist Botanist for body corporate land. Options may be to re-introduce fish if required, or to re-configure wetlands if necessary.

3.2.10 ELEMENT No 010: Crime Prevention through Environmental Design

POLICY:

- To minimize the potential for crime by incorporating crime prevention strategies into and on going operation of the development.

PERFORMANCE OBJECTIVES:

- To provide an environment in and around the development that allows for casual surveillance and access management.
- To provide Crime Prevention through Environmental Design Principles (CPTED) to the design and layout of future buildings, carparks, service loading areas, open space and landscaped areas to facilitate a safe environment.
- To create a social connection within the development in order to deter crime.

CONTROL MEASURES:

- A periodic review of the buildings and associated facilities shall be undertaken having regard to the following safety and security factors:-

  (i) sightlines;
  (ii) lighting;
  (iii) predictable routes;
  (iv) entrapment spots;
  (v) isolation;
  (vi) land use mix;
  (vii) activity generators;
  (viii) ownership and maintenance and management;
  (ix) signs and information;
  (x) overall design; and
  (xi) planning.

- Liaison with the Queensland Police Service and relevant emergency service agencies shall be undertaken from time to time in relation to crime prevention.
- Information shall be sought from safety audits or internal development community input to identify areas of potential community concerns in relation to crime.

PERFORMANCE INDICATOR:

- Reduce the potential for crime and increase of community security

MONITORING:

- Ongoing review by the proponent shall be part of the operational management. Individual property owners and the various bodies corporate should review these respective areas.
- Review shall be undertaken on at least a quarterly basis.

REPORTING:

- During the operations phase the review will be on a monthly basis.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Where found necessary through safety audits and/or CPTED design principles.

3.2.11 ELEMENT No 011: Wetland and Emergent Macrophyte Maintenance

POLICY:

- To ensure that the macrophyte community in the constructed wetlands develops and maintains a high degree of diversity.

PERFORMANCE OBJECTIVE:

- To ensure the macrophytes remain healthy and free of weed competition.

CONTROL MEASURES:

- Implement and maintain the designed species layout in each constructed wetland.
- Monitor establishment of each species, and conduct the following:-
  - (i) Regular inspection of constructed wetlands for health and success of each macrophyte species.
  - (ii) Remove weed species/overly aggressive species when required.
  - (iii) Repair damage from flood events and recommend changes to species composition if required
  - (iv) Undertake harvest only if excessive growth upsets balance of free water area or provides flow constraint. **Harvest shall not be undertaken until proposed methodology is approved in writing by GCCC.**

PERFORMANCE INDICATOR:

- Healthy appearance of constructed wetlands and waterway system. High diversity of microphyte species throughout the residential development and golf course site.

MONITORING:

- Monthly inspection by the Residential Development and Golf Course Superintendent of the following:-
  - (i) Healthy appearance of constructed wetlands and waterway system
  - (ii) High diversity of macrophyte species throughout the Residential Development and Golf Course site.

REPORTING:

- Monthly to operator in CMS, and GCCC as required

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Identify source of non-compliance; make good; educate development community. Liaise with neighbouring owners where necessary and GCCC.

3.2.12 ELEMENT No 012: Management of Fertiliser/Pollutant Inputs to Creek System

POLICY:

- To ensure the integrity of receiving waters for managing the inputs of chemical nutrients.

PERFORMANCE OBJECTIVE:

- To ensure the correct use of recommended fertilisers for the optimum survival of the downstream waterway environment; compliance with GCCC water quality guidelines.
- To educate the Currumbin Ridge community about the need to minimise fertiliser and other chemical use.
- To develop an environmentally sensitive chemical use regime and effective protocols for monitoring and reporting on this system, to adopt this as Operator policy, and to encode this in the CMS

CONTROL MEASURES:

- To effectively minimise the use of chemical substances on or near the wetland and creek system, by:
- Monitoring chemical use on the Residential Development and Golf Course, and correlating with other environmental values, including biota and water quality;
- Including the chemical use regime as a major issue within the Operator CMS for the Residential Development and Golf Course
- Approve only suitable products for use on the Residential Development and Golf Course, with low N and P formulae and slow release mechanisms.
- Educate the need for minimal use of chemical substances.
- Keep an auditable log of fertiliser and other chemical use.
- Investigate the possible installation of automatic fertigation via the irrigation system, to increase the accuracy of dosing levels.

PERFORMANCE INDICATOR:

- A healthy wetland system and drainage paths
- Minimal evidence of weed or algae species
- Compliance with chemical use policy and procedures, and accurate record keeping

MONITORING:

- Monthly monitoring by residential Development and Golf Course Superintendent reporting to Operator/Manager for:-

  (i) A healthy wetland system and drainage paths.
  (ii) Minimal evidence of any weed species present.
  (iii) No algal blooms in wetlands or the drainage corridor
  (iv) Compliance with chemical use policy and procedures, and accurate record-keeping
  (v) Maintenance of GCCC water quality Guideline criteria

FREQUENCY:

- As required, but at least monthly.

REPORTING:

- By monthly and periodic reports to management, and to GCCC for any non-conformance.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION:

- Reinforce education program and re-issue relevant material to residents; if non-conformance is within constructed wetland system not receiving run-off from Residential Development and Golf Course.

- If persistent non-conformance occurs, advise Residential Development and Golf Course Management officially, amend operations to compliance levels.

3.2.13 ELEMENT No 013: Monitoring and Contingency Measures for High Algae Levels/Fish Kills in Wetlands & Drainage Channel

POLICY:

- To monitor and mitigate high algae levels and eutrophic conditions for on site waterbodies to protect the biological integrity of receiving waters.

PERFORMANCE OBJECTIVES

- To maintain healthy wetland ecosystem and to maintain algal levels and chlorophyll *a* levels below the GCCC guidelines for ecological protection of the wetland system and downstream creek system.

CONTROL MEASURES:

- Establish emergent macrophytes as per the Landscape Intent Plan.
- Ensure monitoring system is in place for visible checks of wetlands and drainage channel including:-
  - (i) monitor wetlands and drainage channel on weekly basis.
  - (ii) ensure healthy growth of macrophytes as per recommendations.
  - (iii) ensure healthy numbers of aquatic fauna
  - (iv) investigate any apparent flushes of algal growth.
  - (v) Investigate any apparent kills of fish or other fauna.

PERFORMANCE INDICATOR:

- No visual evidence of algae (especially blue green species), and fish/aquatic fauna intact

MONITORING:

- Weekly monitoring to ensure no visual presence of algae (especially blue-green species), and Fish/aquatic fauna intact by Residential Development and Golf Course Superintendent.

REPORTING

- To operator as per CMS; non-conformances immediately to GCCC.

RESPONSIBLE PERSON:

- The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.

CORRECTIVE ACTION

- Investigate possible source of pollutants or conditions leading to the non-conformance.
- Trace the non-conformance back to the source, and isolate same until problem resolved. This may involve plugging out-falls or locally increasing bunding where required to retain polluted water.
- Check the nutrient/pollutant levels in the wetland by sample and analysis to confirm the site of the non-conformance.

- Physically remove algae form water surface when apparent, using one of the approved methods, **in order of preference:**

  (i) Physical removal using nets, etc
  (ii) In the event that physical removal of algae is not practical or is only partially successful, consideration may be given to flocculation of the water using a proprietary flocculating agent. The spreading of such flocculant can be efficiently carried out by feeding the powder into the propeller of a small outboard motor on the back of a dinghy. **The use of flocculants shall only be undertaken with the written permission of GCCC.**

- Re-instate any lateral damage to macrophytes, including re-planting if necessary.

- Amend operating procedure that led to pollutant non-conformance, if on-site.

- If source is off-site, advise GCCC and liaise to correct problem.

- If necessary, liaise with development community and provide educational material.

3.2.14 ELEMENT No 014: Flora and Fauna Habitat Protection and Management

POLICY:

- To maintain and protect the integrity of the existing flora and fauna habitats on site.

PERFORMANCE OBJECTIVES::

- To encourage the indigenous fauna populations to increase at a natural rate to a desired level of species richness on the site and adjacent waterways, and in particular,
- To protect the Vulnerable species *Rare and Threatened Flora and Fauna species* by special attention to their species Conservation Management Plan as outlined in the **future documentation, a copy of which shall be made available to the Residential Development and Golf Course Superintendent**.

CONTROL MEASURES:

- Maintain landscape Residential Development and Golf Course to encourage high quality habitat for indigenous species on and near site.
- Maintain known and proposed *Rare and Threatened species* habitat in keeping with the Conservation Management Plan.
- Monitor populations, general ecological condition of waterway as per Pro-forma below.

(i) Monitor fauna species presence on six-monthly basis at appropriate times and during appropriate weather (ie wet weather in Spring for the amphibians).

(ii) Remove introduced species as required (especially cane toads).

(iii) Produce and distribute a Facts Sheet on the rare and threatened species to all grounds staff on the Residential Development and Golf Course, and produce four laminated posters for erection at strategic places around the course.

(iv) Include reference to the rare and threatened species in any general environmental brochures produced for intending residents and contractors or other multi-media produced for Currumbin Ridge.

- Incorporation of covernance restricting cat ownership on community title areas abutting the south eastern core reminant vegetation area to protect endemic mammal species.

PERFORMANCE INDICATOR::	• There is no discernible impact on the habitat of the Rare and threatened species from the operation of the residential development and golf course and the habitat for it has been substantially increased. • Visible species richness of indigenous fauna. • Lack of weed and feral species (including the cane toad) present. • Fauna presence with desired species richness, including active populations, subject to appropriate weather conditions.
MONITORING::	• Monthly inspection by Residential Development and Golf Course Superintendent; six-monthly monitoring survey by Flora and Fauna Consultant.
REPORTING:	• To Operator and any non-conformance and all monitoring shall be notified to GCCC.
RESPONSIBLE PERSON:	• The Contractor during the maintenance period. After the completion of maintenance period the Golf Course Management and Residential Body Corporate shall be responsible for their respective precincts.
CORRECTIVE ACTION:	• For persistent non-conformance, refer to specialist consultant.

Draft Pro-forma for Monitoring *Rare and Threatened Flora and Fauna species* populations, water quality and general ecological condition of the Site

Note that three sites are to be selected for the specific measures, at the upstream, downstream and mid parts of the protected habitat sections. These sites will reflect locations where EVR (Endangered, Vulnerable, Rare) species have been recorded in the past. The water quality measures are selected as being of importance to aquatic and amphibian fauna. A written report is to be returned to the Residential Development and Golf Course Supervisor immediately on completion of the fauna survey, and to be entered in the SBMP records at that time.

Person conducting the site inspection and testing:
Date:
Description of weather (current):
(recent) :

Monitoring Data	**Site 1**	**Site 2**	**Site 3**
Water Quality – Clarity -- secci disc depth (mm)			
Ph			
Temperature ^{0}C			
Hardness (ppm)			
Comments			
Presence of			
EVR species abundance			
General comments on amphibian/aquatic species population in relation to water quality data			
Condition of Waterway vegetation			
Weed presence/abundance			
Indigenous species growth/condition			
Species Richness			
Other fauna observed (give details)			
Birds			
Mammals			
Reptiles			
Other groups of interest			
Change since previous report			
Other general comments			

3.2.15 ELEMENT No 015: Recycled Water Management

POLICY:

- To reduce the reliance upon using potable water supply for irrigation purposes and to ensure that the usage of recycled water during the operation phase of the project does not adversely affect the receiving environment or human health.

PERFORMANCE OBJECTIVES:

- To ensure the usage of recycled water in the irrigation of the Residential Development and Golf Course does not impact adversely on the exiting water quality within the site or discharging from the site.
- To maintain the delivery system and reservoir with Best Management Practice to ensure storage area is not impacted by nutrient build-up, or affected by flood events less than Q_{10}.
- To ensure that the nutrient content of the recycled water is monitored, and taken into account when calculating the fertiliser dosage rates for the Residential Development and Golf Course.
- To ensure that the irrigation system controller is set such that no run-off occurs from irrigation. A 'low precipitation/frequent start' regime, also known as a multiple run and soak cycle, is required.
- To provide specific training, encoded in the Site Based Management Plan, for all Residential Development and Golf Course maintenance staff where the observations of wet spots due to over-watering, or run-off from the system, or faults or leaks in the system, will be reported immediately to the Responsible Person.
- To include the monitoring of the system controller alarms in the job description of the Responsible Person or, in his absence, a specifically appointed alternative responsible person.

CONTROL MEASURES:

- Incorporate the above objectives in the job description of the Residential Development and Golf Course Responsible Person.
- Liaise with the Gold Coast City_Council suppliers of recycled water on at least a monthly basis_regarding their nutrient status.
- Utilise the multiple run and soak cycle where necessary in the system to ensure watering application is within field capacity and infiltration rates.
- Inspect Recycled water reservoir weekly for signs of algal growth and general stability;

- Record nutrient levels in recycled water as supplied by Council;
- Retain records of calculation for fertiliser dosage rates by Staff; and
- Log all observations of accidental irrigation run-off, and subsequent alteration to timing and frequency of the watering program.

MONITORING:

- Weekly for establishment period; as required by the Superintendent for:-

(i) Healthy reservoir, with low algal levels.

(ii) Nutrient status in recycled water not exceeding forecast levels.

(iii) No accidental irrigation water run-off.

(iv) Sign-off on this issue by CMS auditor.

REPORTING:

- For the Golf Course - report to the Golf Course Manager.
- For the residential areas report to the Body Corporate (CMS).
- In accordance with the recycled water use agreement report to the GCCC.

RESPONSIBLE PERSON:

- Areas designated for the Golf Course Operations shall be the responsibility of the Golf Course Manager.
- Areas designated for residential precincts including communal open space shall be the responsibility of the Body Corporate (CMS).

CORRECTIVE ACTION:

- Reassessment of the problem and a new management strategy drafted if required. This may include in the short term:

(i) reduction in watering times, or increase in time between starts; ie amendments to run and soak cycle system.

(ii) reduction in amounts of fertiliser used, or change in fertiliser type to slower-release formula; and/or

(iii) Diversion of drainage from any problem areas to 'nutrient sinks' designed as part of landscape tree plantings, before eventual outfall to drainage path.

3.2.16 ELEMENT No 016: Acid Sulfate Soils

POLICY:

It has been determined that parts of the subject site have high acid sulfate soil potential. A detailed acid sulfate soil investigation in accordance with local and state regulatory standards will be conducted to determine the extent of potential acid sulfate soils. Based on investigation results an Acid Sulfate Soils Management Plan shall be developed.

The Acid Sulfate Soils Management Plan provides information on the following:

- Performance Objectives
- Control Measures
- Performance Indicator
- Monitoring
- Reporting
- Responsible Person
- Corrective Action

3.2.17 ELEMENT No 017: Cultural Heritage

POLICY:

- During the operation of the development the management of any sites and objects of cultural heritage significance on the site must meet with statutory requirements.

PERFORMANCE OBJECTIVES:

- To meet the legal requirements for the appropriate maintenance management of sites and objects of cultural heritage significance.

CONTROL MEASURES:

- Any sites of cultural significance on the site shall be managed in accordance with the statutory requirements and wishes of the traditional owners.
- The operator of the development golf course and the residential precincts shall be responsible for all those facilities under its jurisdiction, for training and education for all staff, new staff, contractors and consultants in the identification and significance of cultural heritage issues and the legislative requirements for their protection in Queensland.
- Where relevant, training should include the identification of stone artifacts, shell midden, traditional occupation sites and burials.
- When a site, item or place of cultural heritage significance is found during the course of works, all work in the vicinity of the find will cease immediately and the find reported to the operator of the golf course or residential precincts.
- The operator of the Gold Coast Golf Resort Currumbin will report the find immediately to the Regional Manager, Cultural Heritage Environment Protection Agency on telephone (07) 3225 8426.

PERFORMANCE INDICATOR:

- Any sites or objects of cultural heritage significance on the site are managed in accordance with the statutory requirements.

MONITORING:

- Where applicable management of sites of cultural significance shall be continuous.

REPORTING:

- A report shall be prepared by the operator of the golf course and Body Corporate of the residential precincts on an annual basis indicating the then status of any required aspects raised in relation to cultural heritage issues on the site.

RESPONSIBLE PERSON:

- The operator of the golf course precinct and the Body Corporate of the residential precincts shall be responsible for ensuring compliance with the SBMP – Cultural Heritage.

- The individual "Bodies Corporate" shall be responsible to manage the processes required by this Site Based Management Plan to ensure there is minimal risk of environmental harm for those facilities under its jurisdiction.

CORRECTIVE ACTION:

- Where necessary corrective action will be taken in accordance with any guidelines established by the Regional Manager Cultural Heritage – Environment Protection Agency.

3.2.18 ELEMENT No 018: Waste Management

POLICY:

- The operation of the development must not generate waste, which impacts on the aesthetic and/or environmental values of the development and adjacent areas.

PERFORMANCE OBJECTIVES:

- To minimise the production of waste from the development, and ensure that such waste does not impact on the aesthetic or environmental values of the development and adjacent areas.

CONTROL MEASURES:

- Provision of trash containers and recycling bins for domestic wastes of construction employees in an area accessible to refuse collection vehicles and arrangements for the collection of their contents.

- Provision of industry standard enclosed storage facilities for oils, greases and solvents and industrial waste containers for the storage of industrial waste, with particular note of the requirements for grease, oils, and solvents used to service or repair heavy machinery.

- Any waste shall be disposed of by an authorised waste disposal method, or as recommended by the specification of the manufacturer.

- Disposal of cleared vegetation shall be in accordance with permits issued by the relevant statutory authorities. Combustion of any material shall not be allowed on the subject site without prior approval of the relevant statutory authorities.

- Waste separation facilities for relevant components of the waste stream including recyclable components, food waste and general waste shall be regularly maintained cleaned and serviced as required.

- Provision of grease-traps, trash racks or grids as appropriate on all discharge facilities to off-site locations, and regular inspection and cleaning of above in accordance with the recommendations of the manufacturer / engineer as arranged with the relevant statutory authorities.

- On-site waste storage facilities of suitable scale and number shall be provided. This shall include where required in Hotel or golf course refrigerated bins with "lids" or non refrigerated bins with "lids". All external rubbish bins are to comply with the development guidelines of the relevant statutory authorities' requirements.

- The operator of the golf course and Body Corporate for the residential estate shall insist on the use of recyclable materials by suppliers, where they are available and cost-competitive.

PERFORMANCE INDICATOR:

- Visual inspection of on-site storage and service areas, temporary and permanent drains shall indicate compliance with required waste disposal methods.
- Criteria as specified in the Water Quality Management Program as defined in the EMP.
- Disposal of cleared vegetation complies with the relevant permits from the relevant statutory authorities.
- The following shall indicate a failure in the waste management strategy and indicate the need for corrective action:
  - (i) presence of litter on the property;
  - (ii) presence of litter in adjacent environments; and
  - (iii) presence of pests or nuisance species.
- The operations shall comply with the *Workplace Health and Safety act 1995,* regulations for waste management and public health and the guidelines of the relevant statutory authorities.

MONITORING:

- Collected waste shall be disposed of on a regular (at least weekly) basis, and additional services shall be arranged if required.
- All external rubbish bins shall be emptied on a regular basis.
- Waste disposal shall be undertaken as required but not less than weekly.

RESPONSIBLE PERSON:

- The operator of the golf course and the Body Corporate shall be responsible for ensuring compliance with the SBMP – Waste Management.

REPORTING:

- If accidental spillage of waste material with the potential to cause environmental harm occurs or is noted, this shall be immediately reported to the Construction Manager.
- Failure of any aspect of the waste management system shall result in a review of the reasons for the failure and the implementation of corrective actions.

- A review is to be conducted during routine management meetings to assess the efficiency of the Waste Management Program and identify strategies to improve waste management.

CORRECTIVE ACTION:

- Provision of additional waste containers (either general or specific purpose) or an increase in the frequency of waste collection.

- In the event of waste spillage on site, this shall be cleaned up immediately by appropriate methods, this being the obligation of those responsible, or where necessary professional clean-up services arranged.

- If a spillage could cause any part of the site to be declared contaminated, action shall be undertaken to remediate the area affected by that spillage to the extent that such a declaration would not be required.

- If vegetation disposal methods are not consistent with the guidelines of the relevant statutory authorities, the necessary changes are to be made and contract staff advised of the appropriate procedure.

- Additional waste storage facilities shall be provided or procedures for waste collection and disposal shall be modified as required.

- Excess litter or waste on the property resulting from an accident or a failure in the waste management system, shall immediately be collected and disposed if in an appropriate manner. The identified failure of the waste management procedure shall be immediately corrected.

3.2.19 ELEMENT No 019: Operational Phase Activities on Steep Slopes

POLICY:

- For each allotment the allotment owners shall prior to the design of the building or commencement of construction ensure that detailed geotechnical assessment of the individual sites is to be undertaken by a suitably qualified person. This assessment is to assist the designers in determining appropriate foundation elements and builtform elements to match the proposed use.
- Footings and foundation design for any development on any allotment shall be based on sound engineering principles and must be undertaken by a competent structural engineer registered by the Board of Professional Engineers of Queensland, advised by the allotment owner's geotechnical engineer.
- The proposed buildings are generally intended to utilize the existing contours of the area, with minimal earthworks proposed to form the final design levels.
- During the construction phase of some of the buildings the site is generally considered a high erosion risk due to the existing grades across the site.
- Emphasis must be placed on source control of erosion by retaining vegetation for as long as practical and revegetating disturbed areas as soon as possible.

PERFORMANCE OBJECTIVES:

- The principal or allotment owner's, which ever the case may be, geotechnical engineer should be advised of the existence of geotechnical assessments conducted on the site which can be purchased for a fee and of the fact that this report provides information on the site's ground conditions that may be of use to the geotechnical engineer in designing their allotment specific site investigation.
- To minimise the impact of construction activity and operational activities on water quality within water bodies external to the site, and to protect the biological integrity of the aquatic ecosystem.
- To comply with the Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Site (IE Aust).
- To restrict disturbance to and ensure protection of existing vegetation and existing geological character to avoid landslip / landslide events.
- It is intended that the majority of runoff from the construction area will be directed to the sedimentation ponds for treatment. Runoff will then flow from the sedimentation ponds after treatment to the existing on site drain.

- The perimeter of the site will be protected by the use of sediment filter fences and perimeter bunds to ensure there is no uncontrolled discharge off site.

- Measures will be taken to reduce the runoff from the surrounding vegetated areas will be diverted around the construction area and be allowed to continue along the natural watercourse unaffected.

CONTROL MEASURES:

- All surface runoff shall be directed to the sediment ponds to prevent sediment transport from the site. Temporary control measures include; temporary silt fences, controls on amount of open ground and catch drains.

- The allotment owner and any Contractors shall install whatever measures are considered necessary to minimise the impact of construction activities on the surrounding environment, including taking appropriate measures to prevent creation of landslip or landslide.

- All sediment control structures must be operated and maintained in an effective operational condition.

- The allotment owner shall implement measures to control vehicular access within the individual allotment using measures such as; barriers, fencing and signage. These devices shall be used to minimise impacts to surface geology and to avoid landslips or landslides.

MONITORING:

- Regular on site monitoring of discharge water quality shall be required.

- Where required by the geotechnical engineer or structural engineer all on site monitoring shall be undertaken in accordance with the specific recommendations of the relevant specialist.

REPORTING: The allotment owner shall obtain from the allotment owner appointed relevant geotechnical engineer or structural engineer a certificate of construction compliance with the relevant design elements. Contractor shall prepare monthly reports to tie consultant on all requirements of this element. The consultant shall review and forward to Council.

RESPONSIBLE PERSON: The individual allotment owner shall be responsible for meeting all requirements of this element.

CORRECTIVE ACTION:

- Non compliance with this element, approved drawings and conditions of development approval must be dealt with immediately.
- Where necessary the individual allotment owner shall seek the advice of a suitable qualified engineer for matters relating to geotechnical or structural elements of the development.

APPENDIX A

BASE LINE WATER QUALITY MONITORING RESULTS, AND WATER QUALITY MONITORING POINT LOCALITY PLAN.

Weathered Howe

Groundwater & Surface Water Monitoring Gold Coast

Summary

Station Identification	Sulphate mg/L											
Date of Sample	2/12/2003	9/12/2003	12/01/2004	10/02/2004								
MB1	N/S	N/S	N/S	54								
MB2	N/S	N/S	N/S	1600								
MB3	N/S	N/S	N/S	37								
MB4	N/S	N/S	N/S	390								
MB5	N/S	N/S	N/S	6.3								
MB6	N/S	N/S	N/S	85								
SW1	N/S	N/S	N/S	440								
SW2	N/S	N/S	N/S	2000								
SW3	N/S	N/S	N/S	460								
SW4	N/S	N/S	N/S	1500								

Station Identification	Chlorophyll a ug/L											
Date of Sample	2/12/2003	9/12/2003	12/01/2004	10/02/2004								
MB1	<10	N/S	N/S	N/S								
MB2	<10	N/S	N/S	N/S								
MB3	N/S	N/S	N/S	N/S								
MB4	<10	N/S	N/S	N/S								
MB5	<10	N/S	N/S	N/S								
MB6	<4	N/S	N/S	N/S								
SW1	20.0	N/S	N/S	N/S								
SW2	20.0	N/S	N/S	N/S								
SW3	20.0	N/S	N/S	N/S								
SW4	9.0	N/S	N/S	N/S								

Station Identification	Dissolved Oxygen mg/L											
Date of Sample	2/12/2003	9/12/2003	12/01/2004	10/02/2004								
MB1	6.7	6.8	6.4	35.8								
MB2	5.8	6.3	7.2	30.9								
MB3	5.4	4.0	7.5	66.2								
MB4	6.4	6.1	12.1	11.5								
MB5	6.5	4.5	5.8	39.8								
MB6	17.0	12.5	16.0	55.8								
SW1	84.7	60.2	72.1	91.4								
SW2	74.3	74.5	75.1	79.1								
SW3	70.1	37.7	45.9	31.8								
SW4	73.9	72.1	70.1	98.9								

Station Identification	Total Aluminium mg/L											
Date of Sample	2/12/2003	9/12/2003	12/01/2004	10/02/2004								
MB1	160.0	24.0	8.0	17								
MB2	1.1	24.0	0.2	0.043								
MB3	N/S	38.0	230.0	0.1								
MB4	140.0	32.0	7.8	21								
MB5	65.0	22.0	7.8	0.9								
MB6	5.9	1.9	0.3	0.061								
SW1	1.4	0.4	0.2	1.8								
SW2	1.5	0.3	0.5	3.5								
SW3	0.8	0.3	2.2	0.7								
SW4	1.4	0.3	0.7	1.5								



REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	J.P.B.	20.04.04

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SURVEYOR: BENNETT & BENNETT

CLIENT: DEVINE LIMITED

PROJECT: GOLD COAST GOLF RESORT CURRUMBIN

SCALE (AT ORIGINAL SHEET SIZE)

ORIGINAL SHEET SIZE: A3

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TITLE: WATER QUALITY MONITORING LOCATIONS

REVIEWED		APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY. LTD.)	R.P.E.Q. No.
DESIGNED		DRAWING NUMBER	REVISION
DRAWN	J.P.B.	G03158E-SG	A
DATE	20TH APRIL		

APPENDIX B

BUSH FIRE RISK ASSESSMENT AND MITIGATION PLAN

Clyde Bain Fire Management T/A
Bushland Protection Systems
Servicing Queensland and New South Wales
Specialising in
BUSHFIRE HAZARD
PLANNING & MITIGATION

ABN 52 504 053 803 Ph: 07 5546 7933 Fax: 07 5546 7988 P.O. Box 40 Ormeau, Qld. 4208 E-mail: bushland.protection.systems@bigpond.com

BUSHFIRE RISK ASSESSMENT AND MITIGATION PLAN

ON

LOTS 1 & 247 RP 854934
LOT 2 RP 168012
CURRUMBIN CRK & PIGGABEEN RDS
CURRUMBIN VALLEY

PREPARED BY

BUSHLAND PROTECTION SYSTEMS

COMMISSIONED BY

WEATHERED HOWE

DATE: 22nd APRIL 2004

EXECUTIVE SUMMARY

The proposal is for a golf resort and unit/townhouse development with some house lots along the higher slopes. The site is to become a community title style development known as the 'Gold Coast Golf Resort Currumbin', located on the southeastern side of Currumbin Creek Rd between existing development on Hoffschildt Drive to the north and Piggabeen Road to the south.

The border fence and fire trail follows the eastern boundary of the property with a bushland corridor which generally follows the border between the proposed Gold Coast Golf Resort Currumbin and the Cobaki Lakes development on the New South Wales side. This bushland corridor includes the park open space precinct within the proposed resort.

The potential for bushfire approach to the proposed development would be from the east out of Cobaki lakes area and from the south southeast along the ridge line through the retained park open space area. Once the fire comes over the ridgeline it would then be predominantly down slope to the development with lower intensities and slower rates of spread.

The proposed development is accessed from Currumbin Creek Road at two points, with the majority of the internal roadways being located within low to non-existent potential bushfire hazard (PBH) areas on the lower slopes. The roadway along the border fence is to be a loop road providing a dual access and encompassing internal links.

The housing is predominantly located on the lower slopes and the cleared grazing portions of the site with radiation zones to be maintained for all structures. All housing is to be constructed to a medium level of construction in accordance with the Australian Standard for Construction of Buildings in a Bushfire Prone Area (AS3959-1999).

The proposed development is to be a community title project with a management and body corporate structure, charged with the responsibility of maintenance programs for the site, which is to also incorporate the management of ground fuel levels, radiation zones and liaison with local fire services to minimize the risk to life and property from external or internal bushfire ignitions.

Water supply for the site is by a reticulated water supply infrastructure with regularly spaced fire hydrants throughout the development. Access to dams, tanks and swimming pools will also provide an alternate water supply if required. Treated waste water could also be utilized for irrigation purposes to provide green fire breaks within the proposed development.

The site is within the Currumbin Rural Fire Brigade district although in time, with further development, it will become the responsibility of Urban Fire Services, with the support of Rural Brigades in dealing with bushland corridors and passive open space areas, within and bordering the site.

With appropriate radiation zones, adequate water supplies, good access provisions and minimizing ground fuels, the risk of bushfire damage can be managed and improve the safety of residents and fire services in attending to a bushfire threat.

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Appendixes

Appendix 1A (Aerial Photo of Site)
Appendix 1B (Conceptual Precinct Layout Plan)
Appendix 1C (Layout Plan)
Appendix 2 Fire Radiation Zones
Appendix 3 Being Prepared
Appendix 4 Recommendations For a Long Driveway

1. Background

This Bushfire Risk Assessment and Mitigation Plan is for the proposed Gold Coast Golf Resort Currumbin, over the Currumbin Creek and Piggabeen Roads site, Currumbin Valley. This report is based on the following information, supplied by Weathered Howe along with a number of site inspections during the latter part of 2003 to early 2004.

1.1. An aerial photo of the site and surrounds included as appendix 1A in this report.

1.2. A proposed precinct layout plan drawn by PMM Group Ref No. 7091-02-B dated 21st April 2004, included as appendix 1B in this report.

1.3. Advanced concept plan including roads, golf course, building and lot locations drawn by ML Design, drawing No. 4409-01-0 dated 19th March 2004, included as appendix 1C in this report.

2. Site Description and Land Use.

2.1 Description

The property is currently being used for cattle grazing and has been operating as a dairy farm for many years prior to this. The property consists of low creek flats with improved pastures along Currumbin Creek Road and Piggabeen Road rising up to hilly country along the NSW border fence and fire trail. The northern portion of the site within Precincts 301, 302, 303,304 & 305 (see appendix 1B) has been cleared with improved pasture, along with an old avocado orchard and pockets of retained bush land. There is also some plantings of Poinciana and Jacaranda trees with some re-growth scrub and weed species particularly lantana along the ridge line.

Precinct Park (open space) is a mix of tall open black butt forest over the higher slopes and mixed open eucalypt forest along the mid slopes, with Precinct 306 and 307 located in a mostly open area on the mid to lower slopes and the golf course located on the lower cleared portion of the site.

2.2 Land use

The proposal is to develop an eighteen hole golf course over the low lying pasture land along the water course with clubhouse and hotel. The lower and mid-slopes are to have units and townhouses with residential lots along the higher cleared slopes in the northern portion of the site Precincts 304 & 305.

The Gold Coast City Council's potential bushfire hazard (PBH) map shows the majority of the site as having no PBH over the grazed areas, with a medium PBH on the mid slopes of bushland and a high PBH along the higher bushland slopes. These ratings would be consistent with ground proofing although the most likely direction of approaching bushfire would be from the south and east equating to a predominantly down slope bushfire towards the developed areas.

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2.3 Bushfire Risk Exposures

2.3.1 Border Fence Boundary.

The border fence and fire trail follows the eastern boundary of the site from Hoffschildt Drive in the north to Piggabeen Road to the south. The vegetation on the NSW Side of the border consists of wet sclerophyll forest type with relatively heavy ground fuel and shrub under story. The bushland along this area consists of reasonably large pockets to narrow strips tending down slope to the Cobaki Lakes developments with considerable portions cleared and grassed over.

There is the potential for bushfire attack from this area although the limited width of bush land and the easterly aspect would reduce its impacts to some degree. Having a continuous fire trail will also assist in the management of a potential bush fire from the east, the siting of lots or structures adjacent to the border should be avoided by the installation of roadways between the border and building lots.

2.3.2 Retained Bushland Within Development.

The open black butt and eucalypt open space park east of Precincts 306, 307, 308 and 309 has the potential to carry a considerable bushfire from the NSW side of the border into the estate, although once over the ridge line, the fire would be traveling down slope towards the proposed dwellings with a considerable slowing of rate of spread and lower intensity. Care also would need to be taken to prevent bushfire within the site impacting on the NSW side towards the Cobaki Lakes area.

There are some smaller isolated pockets of bush land to be retained within the site which could facilitate a localized bushfire although with management of ground fuel levels within these areas and around them, the risk can be considerably reduced.

2.3.3 Low Land Areas.

The low land areas would have a low risk of bush fire damage as any approaching bush fire would be predominantly down slope with lower intensities and slower rates of spread, therefore general maintenance of these areas will reduce the risk of bush fire damage considerably.

3. Roads, Fire Trails and Driveways.

The proposed development has two access points to Currumbin Creek Rd located along the valley with a low potential bushfire hazard (PBH), therefore it would be highly unlikely that access or egress to the site would be compromised during a bushfire event in the area.

Precincts 301 to 305 have a loop road encircling all the housing within these precincts with a number of cul-de-sacs located within the loop road. There is a short section of the loop road which is for emergency use only, connecting two cul-de-sacs in the

southern portion of precinct 5. This section would need to be a minimum 4m wide, bitumen surface and capable of carrying up to a 20ton fire tender during a bushfire event.

Precincts 306, 307, 308 and 309 are located in the open grassland and are accessed from the feeder road running along the lower slopes adjacent to the golf course. All housing areas would have good access and egress options during a bushfire event with the majority of roadways located in clear open grassland areas exiting onto roads located in low or nonexistent PBH areas.

All cul-de-sac community access road / driveways are to have a cul-de-sac head with a minimum of 20m diameter or a hammer head, † or Y type turning area with the equivalent of a 20m diameter turning circle.

Driveways to dwellings should be designed and constructed to ensure access by large two wheel drive tankers of approximately 20 tons with a minimum 4 meters vertical clearance, minimise sharp bends or steep slopes, provide turning areas equivalent to 20 meter diameter and good all round access to dwellings for fire suppression activities. Appendix 4 is included in this report to assist owners in their efforts to ensure quick and timely access to their properties in an emergency.

There is a fire trail located on the NSW side of the border fence with access gates along the eastern boundary of the site. The park open space has a number of old farm tracks within this open space area which are to be retained for future access and management, therefore access to these tracks are to be maintained.

There are also farm tracks traveling up the spurs located between Precincts 301, 302 and 303 from the low land up to the border fence. These connections are to be retained to provide added links from the lowland to the highland and break up the open space areas between the units and housing lots. These links will also assist in the fuel management of these areas.

The housing lots along the border fence are to be separated from the border fence by the loop road which will provide a dual access egress in the event of a bushfire approach from the east. The roadway and fire trail will provide a buffer between the bush land to the east and housing located on the western side of the ridgeline.

4. Appropriate House Site Location.

The housing is to be located in the open grazing areas with generally a westerly aspect, where the approach of bushfire would be predominantly from the east and south, traveling down slope with lower intensities and slower rates of spread.

The housing lots within Precincts 304 & 305 will have the roadway between them and the border. The housing is to have a minimum set back from the border of 20m, along with the fire trail along the NSW side of the border fence will offer a good level of protection and access in dealing with a potential bushfire from the east.

5. Appropriate Building Construction.

Buildings on the lower slopes well away from the bushland areas would have a low risk of being affected by bushfire, with some of the structures in Precincts 304 to 309 having exposure to the retained bushland corridor and isolated small pockets within the estate. All housing with an exposure to bushland is to conform to a medium level of construction in accordance with the Australian Standard for Construction of Buildings in a Bushfire Prone Area (AS 3959-1999).

Examples of some of the restrictions that may apply to building construction are:

- Combustible roof coverings such as timber shingles are not acceptable;
- Eaves and gables should be enclosed to prevent air-borne ignited material entering the roof area;
- Under floor areas of less than 600mm from ground level should be enclosed.

6. Appropriate Clearing and Landscaping.

The majority of the buildings are to be constructed over the open grassland areas, where the maintenance of grassland will minimize risk from bushfire.

The Gold Coast Bushfire Management Strategy 1998 requires that residences with an exposure to potential bushfire are provided with a 10m inner radiation zone around the building where trees are thinned and ground fuels are maintained at low levels. A further 10m outer zone is established where all trees remain with reduced ground fuel and low branches to 2m are removed along with hanging bark as outlined in appendix 2 of this report.

An extended outer radiation zone of 1m per degree of down slope would also be a requirement where housing has a direct exposure to bushland, particularly those in Precinct 306, 307, 308 and 309.

The areas of open space within the loop road encompassing Precincts 301 to 305 are to be managed with low ground fuel at all times with grassland to be maintained to less than 150mm in height. If re-vegetation is to be undertaken in these areas, care would need to be exercised to prevent a buildup of fuel levels which could pose an unacceptable bushfire hazard to the property from within the development. Buildings located on lots within Precincts 304 & 305 are to maintain a 20m set back from the border fence and a 15m set back from rear boundaries and be maintained with low ground fuel levels. The open space areas between these lots are to be maintained with low ground fuel to minimize risk from localized bushfire or ember attack the from the larger bushland corridors.

Internal driveways and access / fire trails are to be maintained with low ground fuel along the edges to minimise the potential for localised bushfire hindering access or egress. Low branches along the driveway should be removed to a height of 2 metres to assist in preventing fire from climbing into treetops. Branches overhanging driveways should be removed to a minimum height of 4 metres to ensure access by

medium and heavy fire vehicles. Appendix 4 on long driveways will assist the owners with the maintenance of the driveway and access / fire trails to prevent delays in attending to an emergency by fire services.

Added protection from bushfire can be achieved by establishing green fire breaks which include green lawns, trees arranged to create a shield to catch sparks or fire brands or the expanding of rainforest species. Trees and shrubs not subject to drought stress will cope better during bushfires. The higher the moisture content in the plant the slower it burns. Therefore by keeping the surrounding area green and low in dry ground fuel, the intensity of an approaching fire will be reduced and the risk of spot fires minimised.

7. Provision of Adequate Water Supplies.

The area of the proposed development is to be serviced by reticulated water supplies with the inclusion of fire hydrants for fire fighting purposes.

Some properties will be encouraged to have water storage tanks which also could be utilized in the unlikely event of water supply problems, as well as the provision of green fire breaks.

Residents with dams or swimming pools should consider access to these resources in the event of bushfire or a lack of water supply pressure.

8. Provision of Fire Fighting Infrastructure.

Where a house may have a direct exposure to an approaching bushfire it should have external hose cocks and hoses that are positioned so water supply is capable of reaching to all parts of the building. All water lines are to be covered by at least 300mm of soil. Residents should maintain good access around their homes for fire suppression activities by fire authorities.

As the development will have maintenance staff responsible for the upkeep of the golf course and the community areas within the development, they could be provided with a level of training and equipment to provide assistance to fire services in the event of an outbreak of bushfire threatening the area or within its confines.

9. Local Fire Brigades.

The site is located within the Currumbin Valley rural fire brigade district on the border of the urban fire service district. In the event of bushfire in this area, it would be most likely both would respond with backup for Currumbin Valley being through the Gold Coast Fire Brigades Group.

In time with urban development progress, the area will become the responsibility of the Urban Fire Service, however there will always be a need for rural brigade involvement to assist with fire management of the bushland corridors.

10. Improved Community Awareness.

Minimising ground fuel and regrowth is the easiest way of reducing bushfire hazard in urban rural interface areas. Owners can assist in the mitigation of these bushfires by the removal of ground fuels prior to the bushfire season.

As the proposed site has exposure to a potential bushfire hazard it is recommended that all residents be made aware of the fire prone nature of the bushland areas around them and their responsibilities toward their own safety and that of their neighbours. Supplying residents with copies of the relevant sections of the Fire Management Plan, outlining their responsibilities, is to be the responsibility of management as well as maintaining a full copy on display in the management offices. Regular liaison with a local fire brigade by unit managers or body corporate will provide a way for being kept informed of danger periods and extra precautions that may be taken to improve preparedness and assist fire authorities in their efforts to protect life and property. Appendix 3 of this report, "Being Prepared", outlines some of the conditions which will facilitate a bushfire and measures that can be taken to minimise the risks and to help residents look after property and assist the local Emergency Services.

The bushland open space is a very sensitive ecosystem and could be altered drastically if not cared for properly. Residents can assist in maintaining this fragile ecosystem by preventing unwanted fires from encroaching into the parkland, ensure that dumping of rubbish does not degrade the area and that exotic plant species do not invade the bushland. Hot fires on a regular basis will degrade the bushlands biodiversity.

11. Summary of Recommendations

1. All cul-de-sac community access road / driveways are to have a cul-de-sac head with a minimum of 20m diameter or a hammer head, † or Y type turning area with the equivalent of a 20m diameter turning circle.

2. Driveways to dwellings should be designed and constructed to ensure access by large two wheel drive tankers of approximately 20 tons with a minimum 4 meters vertical clearance, minimise sharp bends or steep slopes, provide turning areas equivalent to 20 meter diameter and good all round access to dwellings. Appendix 4 is included in this report to assist owners in their efforts to ensure quick and timely access to their properties in an emergency.

3. There is a fire trail located on the NSW side of the border fence with access gates along the eastern boundary of the site. The park open space has a number of old farm tracks within this open space area which are to be retained for future access and management, therefore access to these tracks are to be maintained.

4. There are also farm tracks traveling up the spurs located between Precincts 301, 302 and 303 from the low land up to the border fence. These connections are to be retained to provide added links from the lowland to the highland and break up the open space areas between the units and housing lots. These links will also assist in the fuel management of these areas.

5. The housing lots within Precincts 304 & 305 will have the roadway between them and the border. The housing is to have a minimum set back from the border of 20m, along with the fire trail along the NSW side of the border fence will offer a good level of protection and access in dealing with a potential bushfire from the east.

6. All housing with an exposure to bushland is to conform to a medium level of construction in accordance with the Australian Standard for Construction of Buildings in a Bushfire Prone Area (AS 3959-1999).

7. The Gold Coast Bushfire Management Strategy 1998 requires that residences with an exposure to potential bushfire are provided with a 10m inner radiation zone around the building where trees are thinned and ground fuels are maintained at low levels. A further 10m outer zone is established where all trees remain with reduced ground fuel and low branches to 2m are removed along with hanging bark as outlined in appendix 2 of this report.

8. An extended outer radiation zone of 1m per degree of down slope would also be a requirement where housing has a direct exposure to bushland, particularly those in Precincts 306, 307, 308 and 309.

9. The areas of open space within the loop road encompassing Precincts 301 to 305 are to be managed with low ground fuel at all times with grassland to be maintained to less than 150mm in height. If re-vegetation is to be undertaken in these areas, care would need to be exercised to prevent a buildup of fuel levels which could pose an unacceptable bushfire hazard to the property from within the development. Buildings located on lots within Precincts 304 & 305 are to maintain a 20m set back from the border fence and a 15m set back from rear boundaries and maintained with low ground fuel levels. The open space areas between these lots are to be maintained with low ground fuel to minimize risk from localized bushfire or ember attack the from the larger bushland corridors.

10. Internal driveways and access / fire trails are to be maintained with low ground fuel along the edges to minimise the potential for localised bushfire hindering access or egress. Low branches along the driveway should be removed to a height of 2 metres to assist in preventing fire from climbing into treetops. Branches overhanging driveways should be removed to a minimum height of 4 metres to ensure access by medium and heavy fire vehicles. Appendix 4 on long driveways will assist the owners with the maintenance of the driveways and access fire trails to prevent delays in attending to an emergency by fire services.

11. Residents with dams or swimming pools should consider access to these resources in the event of bushfire or a lack of water supply pressure.

12. Where a house may have a direct exposure to an approaching bushfire it should have external hose cocks and hoses that are positioned so water supply is capable of reaching to all parts of the building. All water lines are to be covered by at least 300mm of soil. Residents should maintain good access around their homes for fire suppression activities by fire authorities.

13. As the development will have maintenance staff responsible for the upkeep of the golf course and the public areas within the development, they could be provided with a level of training and equipment to provide assistance to fire services in the event of an outbreak of bushfire threatening the area or within its confines.

14. As the proposed site has exposure to a potential bushfire hazard it is recommended that all residents be made aware of the fire prone nature of the bushland areas around them and their responsibilities toward their own safety and that of their neighbours. Supplying residents with copies of the relevant sections of the Fire Management Plan, outlining their responsibilities, is to be the responsibility of management as well as maintaining a full copy on display in the management offices. Regular liaison with a local fire brigade by unit managers or body corporate will provide a way for being kept informed of danger periods and extra precautions that may be taken to improve preparedness and assist fire authorities in their efforts to protect life and property. Appendix 3 of this report, "Being Prepared", outlines some of the conditions which will facilitate a bushfire and measures that can be taken to minimise the risks and to help you look after your property and assist the local Emergency Services.

15. This plan should remain current for a period of 5 years, until 2009, at which time it should be subject to review to take account of changing land use and vegetation patterns. Any major bush fire event affecting the subject site should also trigger a review in order to determine effectiveness of protection measures and annual hazard reduction initiatives.

16. The current advanced concept plan is to address the recommendations referred to above. Any amendment to the proposed concept plan would require a review of the bushfire risk assessment and mitigation plan.

12. Conclusion

The Gold Coast City Council's potential bushfire hazard (PBH) map shows the majority of the site as having no PBH over the grazed areas, with a medium PBH on the mid slopes of bushland and a high PBH along the higher bushland slopes. These ratings would be consistent with ground proofing although the most likely direction of approaching bushfire would be from the south and east equating to a predominantly down slope bushfire towards the developed areas.

The proposed development has two access points to Currumbin Creek Road located along the valley with a low potential bushfire hazard (PBH), therefore would be highly unlikely that access or egress to the site would be compromised during a bushfire event in the area.

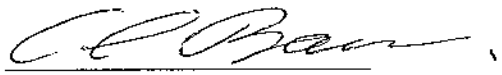
With the appropriate radiation zones as outlined in appendix 2, adequate water supply, good access provisions and minimising ground fuels, the risk of bushfire damage can be managed and improve the safety of residents and fire services in attending to a bushfire threat.

As the development is to take place in stages, care should be exercised to ensure the developed stages are not threatened by bushfire from the undeveloped stages.

This plan should remain current for a period of 5 years, until 2009, at which time it should be subject to review to take account of changing land use and vegetation patterns. Any major bush fire event affecting the subject site should also trigger a review in order to determine effectiveness of protection measures and annual hazard reduction initiatives.

Ultimately, persons living in a bushfire prone area must take the precautions necessary to protect themselves, their families and their homes if brigades are stretched and are unable to attend immediately.

If you require any further assistance please do not hesitate to contact this office.



C. L. Bain
Principal Consultant.

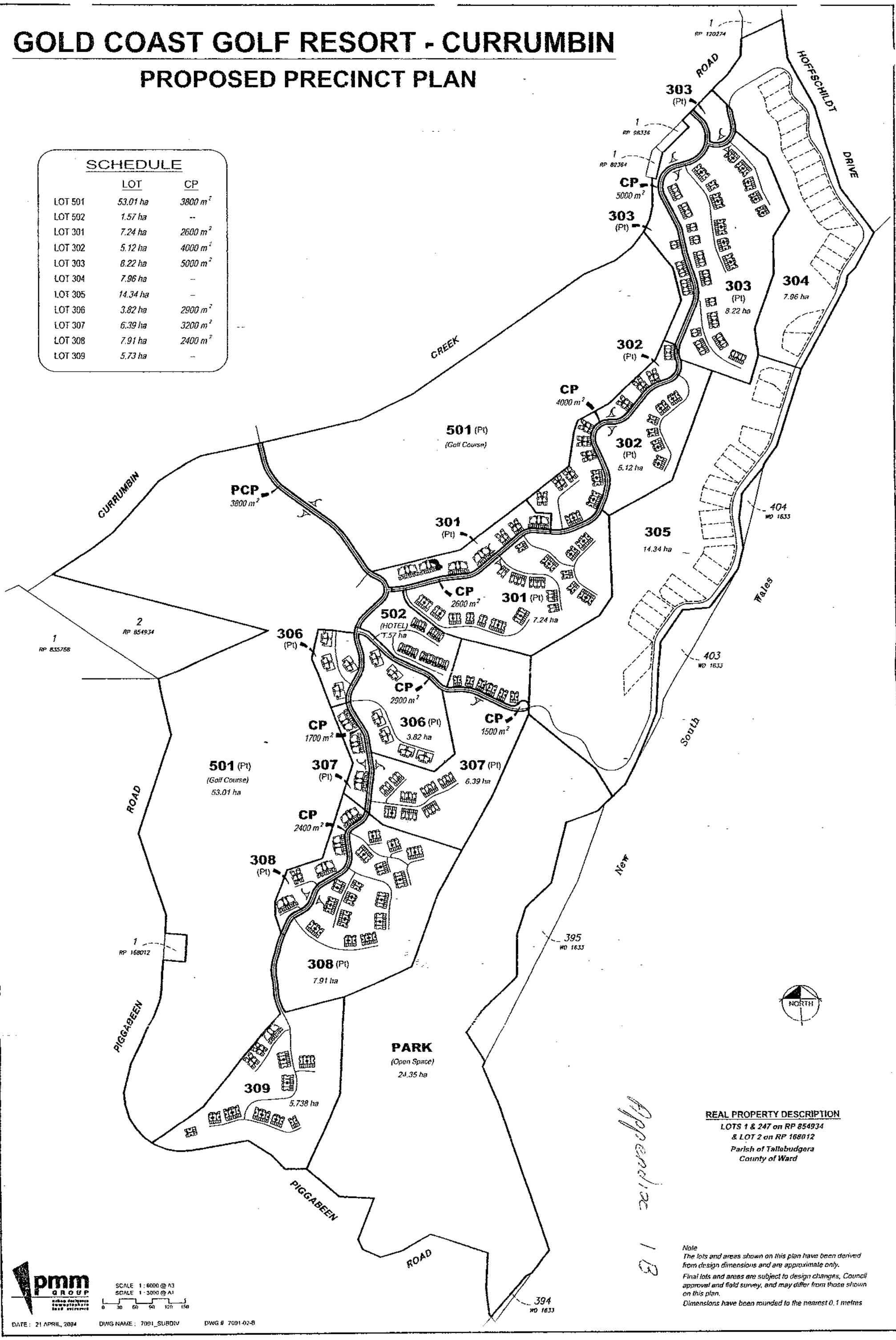
Appendix 1A



GOLD COAST GOLF RESORT - CURRUMBIN

PROPOSED PRECINCT PLAN

SCHEDULE	LOT	CP
LOT 501	53.01 ha	3800 m²
LOT 502	1.57 ha	--
LOT 301	7.24 ha	2600 m²
LOT 302	5.12 ha	4000 m²
LOT 303	8.22 ha	5000 m²
LOT 304	7.96 ha	--
LOT 305	14.34 ha	--
LOT 306	3.82 ha	2900 m²
LOT 307	6.39 ha	3200 m²
LOT 308	7.91 ha	2400 m²
LOT 309	5.73 ha	--



Approved 1 8

REAL PROPERTY DESCRIPTION

LOTS 1 & 247 on RP 854934
& LOT 2 on RP 168012
Parish of Tallebudgera
County of Ward

Note
The lots and areas shown on this plan have been derived from design dimensions and are approximate only.

Final lots and areas are subject to design changes, Council approval and field survey, and may differ from those shown on this plan.

Dimensions have been rounded to the nearest 0.1 metres

pmm GROUP
urban designers
town planners
land surveyors

SCALE 1 : 6000 @ A3
SCALE 1 : 3000 @ A1
0 30 60 90 120 150

DATE : 21 APRIL, 2004 DWG NAME : 7091_SUBDIV DWG # 7091-02-B

SINGLE FAMILY LOTS	34
VARIOUS UNITS	307
GOLF COURSE 5 PLEX	65
GOLD COURSE TWIN VILLAS	28
CONDOMINIUMS	120
TOTAL	554
HOTEL KEYS/ROOMS	96

Building heights up to 3 stories (as shown and described in Section 9.4.3 of the Site Planning and Design Guideline Report) and development on land up to 30% slope.

Appendix C

IRRIGATION LAKE

GOLF CLUB RED CLUB

REV-A 29th APRIL 2004 PRELIMINARY SD ISSUE
REV-B 22th APRIL 2004 PRELIMINARY SD ISSUE

4469-01-B 19 April 2004
SD-10.19 1:2000 @ AO

GOLD COAST GOLF RESORT CURRUMBIN

ADVANCED CONCEPT PLAN (Based on Hulbert Group 10.11.89 Plan)

MLDesign mckerrell lynch
architects
planners
interior designers

APPENDIX 2

Fire Radiation Zones.

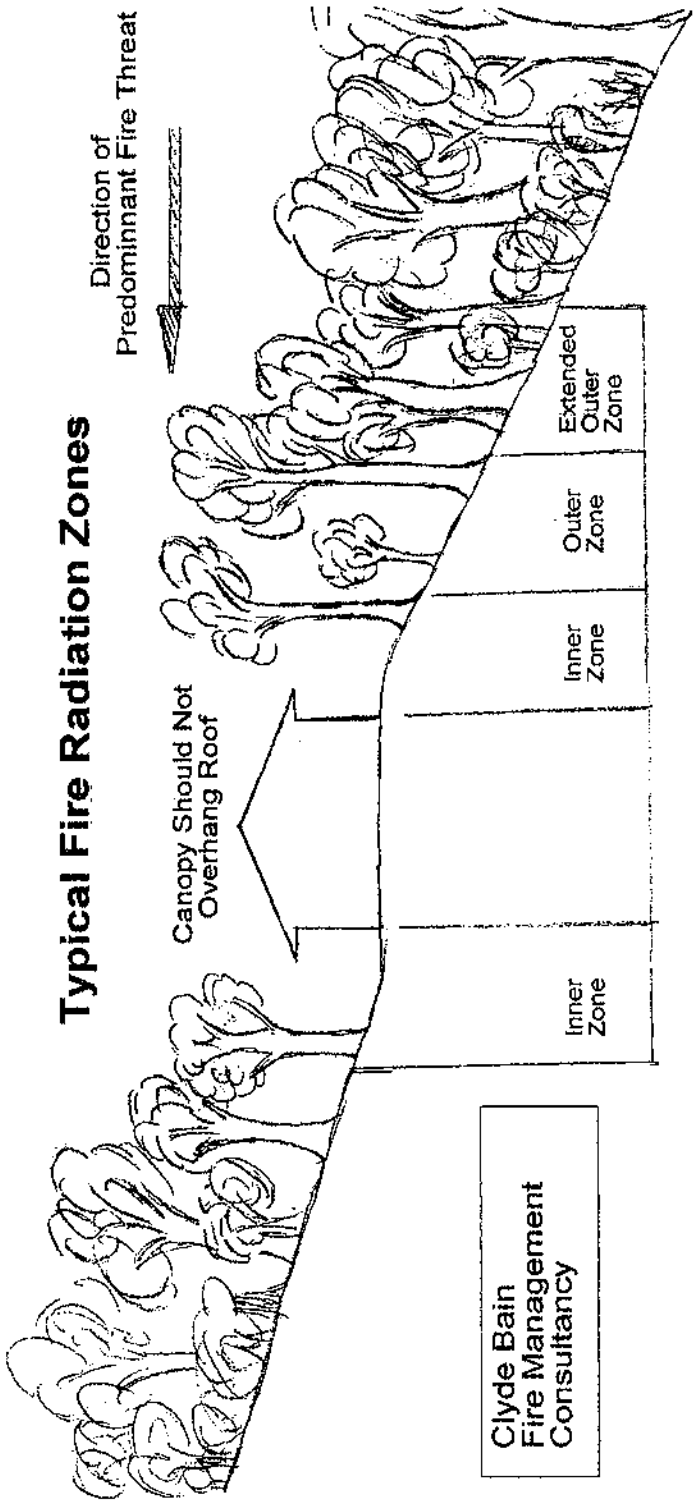
Buildings located in medium and high PBHA's would require the establishment of an inner and outer fire radiation zones around the buildings.

(a) Inner Fire Radiation Zone.
The inner fire radiation zone is measured from the outer wall of the building. The following reduction activities should be carried out in this zone;

- All ground fuel and other combustible material should be removed;
- Dead trees should be removed completely;
- Existing green trees are permitted in this zone, however, all suspended or dangling bark from the lower portion of the trunk should be removed before the commencement of each bushfire season;
- Landscaping in this area should utilise fire retardant species.

(b) Outer Fire Radiation Zone.

The outer Fire Radiation Zone should extend from the perimeter of the Inner Zone. This area should be regularly cleared to ensure that it is maintained at a level unable to sustain ground fire. However, given that each of the buildings will have a predominant fire threat, variations in the shape of the outer zone boundary may be required to account for this threat. As an example, a particular building may have a 10 metre Inner Zone and a 20 metre Outer Zone facing the direction of the predominant fire threat. The opposite side of the building may only have a 10 metre Inner Zone.
An example of typical radiation zones can be seen in the following diagram.


Typical Fire Radiation Zones
Direction of Predominnant Fire Threat
Canopy Should Not Overhang Roof
Inner Zone
Outer Zone
Extended Outer Zone
Inner Zone
Clyde Bain Fire Management Consultancy

APPENDIX 3

Being Prepared

Knowing how to prepare your property for bush fire, both pre-fire and during a fire, can assist in protecting your property and family. It can also alleviate a lot of the stress and panic and the feeling of helplessness that is commonly felt by the inexperienced and by the ill prepared.

It is generally accepted that the Gold Coast Hinterland does not experience the same degree of extreme fire conditions as the southern states of New South Wales, Victoria and South Australia. Having said that, it is also accepted that the Gold Coast Hinterland experiences a relatively regular fire regime. From time to time conditions may occur that will institute a serious and potentially destructive fire. These conditions can be recognised and precautions taken. It must be remembered that during extreme fire conditions the fire services may be stretched to the limit and may not be able to respond immediately to your particular emergency. So it would be desirable to be as prepared and self-reliant as possible to protect yourself, your family and your assets. It is not difficult, and the following information is provided to be of some assistance.

1. Conditions of Serious Fire.

1.1. Higher than average air temperatures for prolonged periods.

1.2. Large and very dry fuel loads.

1.3. Prolonged dry spell with little or no rain resulting in low soil moisture content.

1.4. Very low relative humidity, ie. there is very little moisture in the air.

1.5. Strong and gusty winds, usually from the north through to the west contribute to increased fire hazard. The longer these winds continue the drier the conditions become, and the higher the risk of serious fire.

Observation of local weather conditions past and present will give the best indication of the potential intensity of a fire at any given time or place.

2. Fire Intensities.

Having some idea of what a fire is likely to do in your local area, will help you make the right decisions and give you the confidence to deal with an approaching fire if necessary. Following are some basic fire behaviours.

2.1. Fire will travel faster and hotter uphill. The steeper the slope the faster the rate of spread, allowing little time to react.

2.2. Fire will travel relatively slow down hill even with reasonably high fuel loads, which will give more time to prepare.

2.3. A fire will generally travel faster and at higher intensities with a wind behind it. Again the stronger the wind faster the rate of spread. While a fire will slow considerably when burning against the wind in some cases may even go out.

2.4. The fire will usually burn at a higher intensity and spread faster during the hottest times of the day and tend to slow down considerably as the evening approaches and air temperatures drop.

2.5. The greater the supply of dry ground fuel available to the fire, ie. grass, dry leaf litter, hanging bark and twigs, the greater the intensity of the fire. If the ground fuel is minimised the intensity of the fire reduces considerably and so does the personal risk and the potential for damage.

2.6. If the ground fuels are kept relatively low the chances of a fire progressing into the treetops (crown fire) would be considerably reduced within the Gold Coast Hinterland.

3. Preparing for the bushfire season.

Most cases of damage to property are caused by radiated heat, direct flame contact or most commonly by burning debris or sparks landing in, on, or around the house and starting small spot fires which if not attended to may destroy the property long after a fire front has passed. There are many steps that should be taken prior to the onset of a fire season to help protect your property.

3.1. Keep ground fuel cleared from around the house such as long dry grass, branches, dead leaves, hanging bark and thick undergrowth.

3.2. Firebreaks checked and maintained, even a well-watered lawn can be an effective firebreak.

3.3. Flammable material around the house should be kept well clear, such as firewood piles, plant pots, patio and garden furniture.

3.4. Making sure that rainwater gutters are kept clear of leaf litter build-up. Maybe a method of blocking off down pipes so gutters can be filled with water during a fire to extinguish sparks landing in gutters.

3.5. Make sure that the roofing is well secured, as winds created during a fire may lift roofing and allow the entry of burning embers into the roof space. Also clear any leaf litter or debris build-up from roof areas.

3.6. All windows and vents should be screened with fine wire mesh and all roof areas closed in to prevent entry by sparks.

3.7. Propane gas tanks are vented away from the house.

3.8. Make sure of reserve water supplies. Power frequently fails during a fire. If petrol or diesel pumps are available make sure they and associated hoses and fittings are in good working order.

4. Green Fire Breaks

Added protection from bushfire can be achieved by establishing green fire breaks which include green lawns, trees arranged to create a shield to catch sparks or fire brands or the expanding of rainforest species. Excess rainwater or tertiary treated waste water could be stored and used for this purpose during dry periods to maintain the green fire breaks. Trees and shrubs not subject to drought stress will cope better during bushfires. The higher the moisture content in the plant the slower it burns. Therefore by keeping the surrounding area green and low in dry ground fuel, the intensity of an approaching fire will be reduced and the risk of spot fires minimised.

5. Personal Protection

5.1. If you plan to evacuate any members of the family ie. young children, elderly or handicapped members, make sure they are moved out early long before the fire front arrives.

5.2. Those staying to protect the property should make sure they protect themselves from radiant heat, flying embers, smoke and most importantly heat stress. Protection measures should include the following:

- Long trousers and long sleeve shirt made of wool or cotton (no synthetics)
- Woollen socks and good leather boots for foot protection
- Goggles for eye protection
- A good pair of gloves to protect hands
- A handkerchief to tie over nose and mouth
- A wet towel can also be helpful hung around the back of the neck, this will lower the risk of heat stress.
- Have plenty of drinking water available to protect against dehydration (not refrigerated as this can cause cramping).

5.3. During the fire

When a fire is approaching and given that you have already carried out your pre-fire precautions, and established the degree of risk to your property, protection from the actual fire should be relatively straightforward.

5.3.1. Dress in the appropriate clothing and be sure to drink water regularly

5.3.2. Fill up bathtubs, sinks, buckets, laundry tubs etc. in case of blackouts.

5.3.3. Close doors, windows and curtains.

5.3.4. Close gaps under doors and windows with wet towels.

5.3.5. Block up down pipes, wet down roof, walls and gardens, paying particular attention to the side the fire is approaching from.

5.3.6. Have a battery-powered radio on hand to listen for information about the fires progress from local radio stations.

5.3.7. Patrol your property while the fire is approaching and for many hours after it has passed, to ensure that any spot fires or smouldering debris does not get a chance to develop into a major fire, paying particular attention to the roof cavity of your home. Smouldering embers have been known to start fires hours or even days after the original event.

6. Want to know more ?

The local fire brigade is a good source of local district knowledge, they also have pamphlets and literature produced by the Queensland Fire and Rescue Authority available. Most brigades will also be happy to advise local residents.

APPENDIX 4

Recommendations for a long driveway

Long and steep driveways can pose a number of problems in relation to access for fire services or the evacuation of residents when a bushfire threatens. Steep sites can be difficult for large fully loaded tankers to negotiate in a timely manner during an emergency, which may occur at any time of the day or night. Therefore some consideration to the requirements of emergency services needs to be implemented during the planning and construction stages of long, winding or steep driveways.

1.1. Driveways should preferably be constructed to a minimum of 4 meters wide, be able to be negotiated by up to a 20 ton, 2 wheel drive vehicle, with relatively low ground clearance.

1.2. To assist access for urban fire appliances in the event of a structural fire, gradients should be no greater than 1 in 8, 12.5%, which may increase to 1 in 5 20% over a maximum distance of 50m at a time. The driveway should have a maximum cross slope of 3%. Where a driveway gradient exceeds 1 in 5 (20%), a bitumen or concrete surface should be used. These are Queensland Fire and Rescue Service, Southeast Region guidelines only, and Queensland Streets is the official criteria.

1.3. A clearance height from overhanging trees or other obstacles should be at least 4 meters.

1.4. The ground fuel should be kept to a minimum along each side of the driveway in particular on the down slope side, to minimise the risks posed to services trying to access your property during an emergency situation. Ideally ground fuel should be reduced for a minimum of 3 metres to the downslope side of the driveway and 2 metres to the upslope side. This fuel reduction zone should be maintained within the property boundary.

1.5. If the driveway is especially long, clear areas for passing should be established at a maximum of 200 metre intervals and at the top and bottom of any steep slopes.

1.6. Turning areas should be established at the residence. A minimum turning circle should have a 20 metre diameter or equivalent Y, T or hammerhead area for the steeper or restricted sites where a turning circle is not possible.

1.7. Good access and safety areas around buildings should be established, for use in the event of driveway access and egress being denied during a fire event.

1.8. Driveways of a long nature should also be well identified and kept in good condition, as time saved in an emergency may save lives.

1.9. Where emergency water supplies are located on a property, uninterrupted access should be maintained at all times and be clearly marked for quick identification by fire services in times of emergency.

1.10. Care should be exercised in the construction of driveways to prevent erosion as this may restrict the movement of heavy vehicles.

Clyde Bain Fire Management T/A
Bushland Protection Systems
Servicing Queensland and New South Wales
Specialising in
BUSHFIRE HAZARD PLANNING & MITIGATION

A.B.N. 52 504 053 803 Ph: 07 5546 7933 Fax: 07 5546 7988 P.O. Box 40 Ormeau, Qld. 4208 E-mail: bushland.protection.systems@bigpond.com

Fire is a part of nature. It's effects can be catastrophic and fire can never be totally eliminated, however there are steps that can be taken to reduce the chances of uncontrolled fires occurring and minimise the risk to life, property and the environment, in the event of uncontrolled fires. This is what we concentrate on, how the threats from bushfire can be minimised. There are many methods to do so, however deciding which method/s is best to use can be a complex decision to make. There are so many factors to consider such as ecological values, biodiversity, fire history, availability of resources, cost effectiveness and public awareness just to name a few. No guarantees can ever be given when dealing with Mother Nature, with ever increasing complexities it has now become a specialist field to be able to create plans to try and minimise the risk from bushfire. As you can see below we offer several services in order to try and help the community at large protect itself from the threat of bushfire and also be able to effectively utilise fire as a tool to help preserve nature and protect life and property.

SERVICES PROVIDED

*** Fire Hazard Management Planning.**
Formulation of fire hazard management plans for inclusion in submissions to local council authorities during the application stage of new estates. With ongoing support and advice throughout the development process.

*** Hazard Assessments.**
Assessment of bushfire risk in localised areas, usually prepared for land owners, Government organisations and land managers.

*** Hazard Reduction Planning.**
Advice on the most suitable method/s of hazard reduction for a specific area and the best way of implementing that method/s.

*** Development Waste Disposal Plans.**
Advice in the best methods for disposal of cleared vegetation from development sites.

*** Monitoring Programs.**
Contracts for ongoing monitoring of specific areas on behalf of Government bodies or other organisations.

*** Education Programs.**
Education sessions conducted for industry, Government, organisations and the public.

APPENDIX C

PRO FORMA ENVIRONMENTAL FORMS

Pro-forma – Environmental Complaints Form

FORM 1: ENVIRONMENTAL COMPLAINTS FORM

Insert Company Name:_____

Date:_____

Time:_____

Complainants name:_____

Complainants address:_____

Description of complaint:

_____

_____

_____

_____

_____

_____

_____

Recorded by:_____

Action Taken:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Responsible Person:_____
(print name)

Signed:_____ Date:_____

Pro-forma Environmental Incident Form

FORM 2 ENVIRONMENTAL INCIDENT FORM

Insert Company Name:_____

Date:_____

Time:_____

Incident reported by (name):_____

Incident reported by (address):_____

Description of incident:

_____

_____

_____

_____

_____

_____

_____

Recorded by:_____

Action Taken:

_____

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_____

Responsible Person:_____
(print name)

Signed:_____ Date:_____

APPENDIX D

EROSION AND SEDIMENTATION DRAWING

N

QUEENSLAND

NEW SOUTH WALES

HOFFSCHILDT DRIVE

AREA 1

AREA 2

AREA 3

AREA 4

AREA 5

AREA 6

AREA 7

AREA 8

LOT 3
RP 82364

CURRUMBIN CREEK

CURRUMBIN CREEK ROAD

PIGGABEEN ROAD

PROPOSED NEW NORTHERN ACCESS TO CURRUMBIN CREEK ROAD

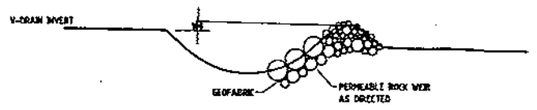
SILT CURTAIN

PROPOSED NEW SOUTHERN ACCESS TO CURRUMBIN CREEK ROAD

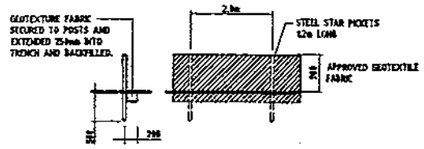
PERMANENT CONSTRUCTED LAKE TO BE USED DURING CONSTRUCTION AS A SEDIMENTATION BASIN

LEGEND

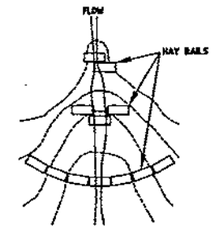
- PROPOSED ROADS
- PROJECT SITE BOUNDARY
- SHAKE DOWN AREA SEE DETAIL 4
- PERMANENT SEDIMENTATION BASIN SEE DETAIL 2
- TEMPORARY SEDIMENTATION BASIN
- CHECK — TYPICAL HAY BAIL ARRANGEMENT SEE DETAIL 1
- PROJECT SITE BOUNDARY



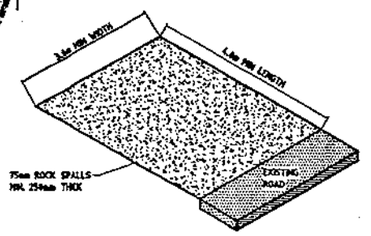
DETAIL 2.
SCALE NTS



DETAIL 3.
SCALE N.T.S.



DETAIL 1.
SCALE N.T.S.
HAY BALES TO BE USED AS DIRECTED ON SITE BY SUPERINTENDENT



DETAIL 4.
SCALE N.T.S.

NOTES

1. ALL INTERNAL ROADS WILL BE PROTECTED WITH TEMPORARY SEDIMENT FENCES. SEE DETAIL 3
2. MAIN DRAIN AND CONSTRUCTED WATER BODIES WITHIN SITE WILL BE PROTECTED BY TEMPORARY SEDIMENT FENCES.
3. AREAS BOUNDED BY PIGGABEEN ROAD OR CURRUMBIN CREEK ROAD SHALL BE DIRECTED BACK INTO THE SITE AND PROTECTED BY SEDIMENT FENCES WERE NECESSARY.
4. DEVELOPMENT SITE CATCHMENT AREAS

AREA 1.	15.0 HECTARES
AREA 2.	15.6 HECTARES
AREA 3.	7.5 HECTARES
AREA 4.	18.1 HECTARES
AREA 5.	20.6 HECTARES
AREA 6.	10.6 HECTARES
AREA 7.	12.7 HECTARES
AREA 8.	11.0 HECTARES

BALANCE AREA - GOLF COURSE

REV	DESCRIPTION	BY	DATE
A	ORIGINAL ISSUE	S.B.W	20.04.04

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SURVEYOR: BENNETT & BENNETT

CLIENT: DEVINE LIMITED

SCALE (AT ORIGINAL SHEET SIZE): 50 25 0 50 100 150 1:2,500

ORIGINAL SHEET SIZE: A3

ARCHITECT: M.L. DESIGN

PROJECT: GOLD COAST GOLF RESORT
CURRUMBIN

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TITLE: INDICATIVE SEDIMENT AND EROSION CONTROL PLAN

REVIEWED:

APPROVED (FOR & ON BEHALF OF WEATHERED HOWE PTY. LTD.)
R.P.E.Q. No.

DESIGNED:

DRAWN: J.P.B.

DATE: 20TH APRIL

DRAWING NUMBER: G03158E-A19

REVISION: A