

IMPORTANT NOTE

This plan was prepared to accompany an application to Rockhampton Regional Council and should not be used for any other purpose.

The dimensions and areas shown hereon are subject to field survey and also to the requirements of council and any other authority which may have requirements under any relevant legislation.

In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land.

This note is an integral part of this plan.

client

Edenbrook Land Pty Ltd
A.B.N. 112 588 182

project

Edenbrook Stage 2C
Oakmont Way, Parkhurst

plan of

Reconfiguration Plan
(1 Lot into 12 Lots + Balance)

rp

Lot 253 on SP318443

lga

Rockhampton Regional Council

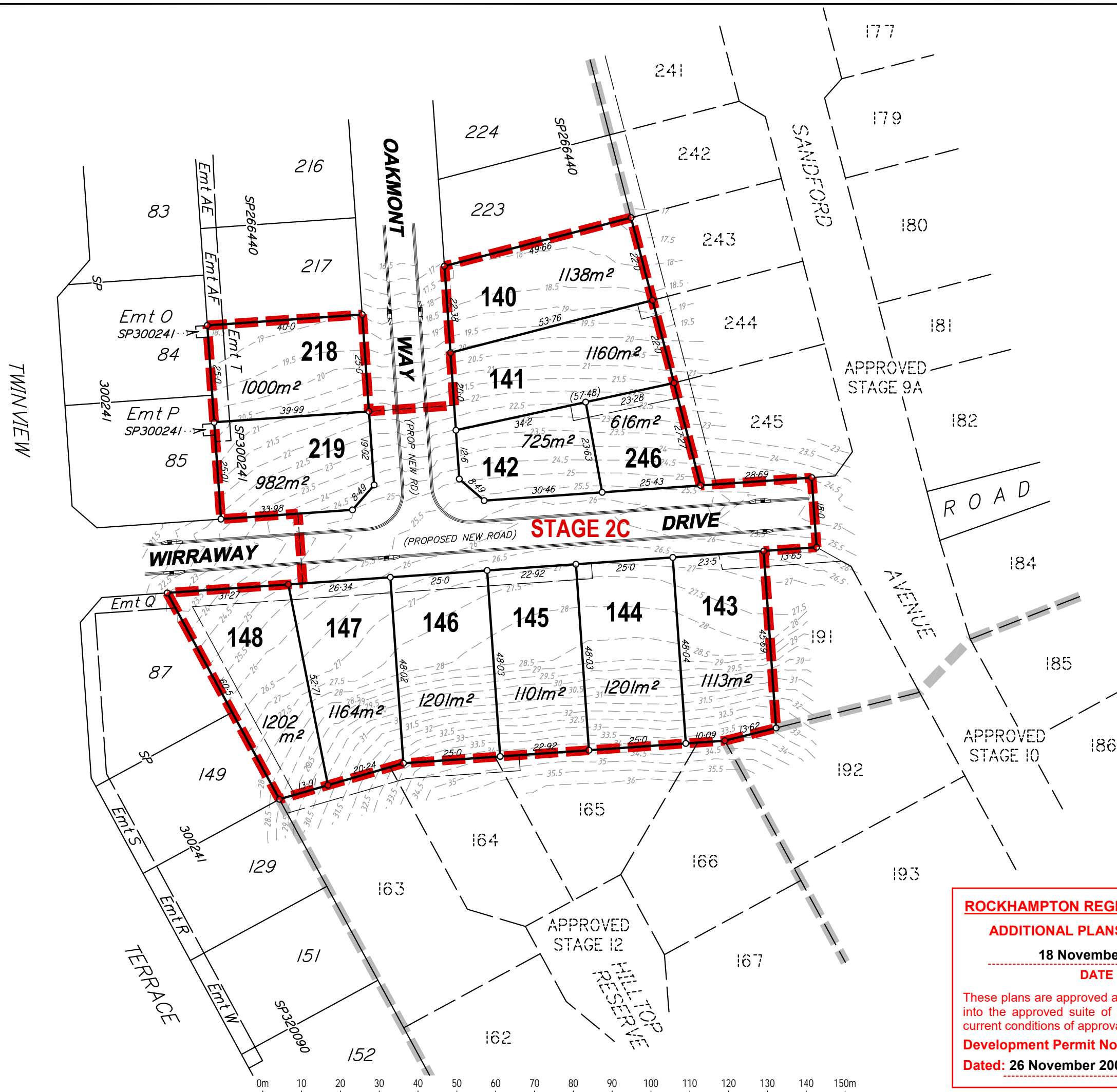
issue	date	details	authorised
A	10-12-2018	Initial Issue	RJKF
B	29-10-2020	Lot layout updated (lot added)	RJKF
C	5-11-2020	Lots 141, 142 & 246 amended	RJKF

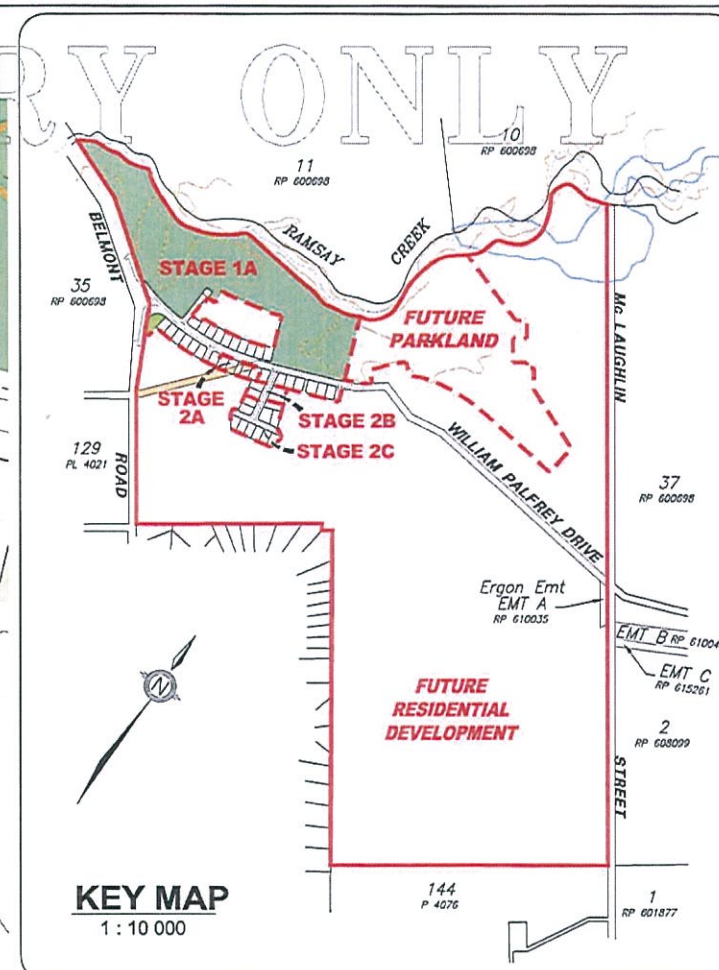
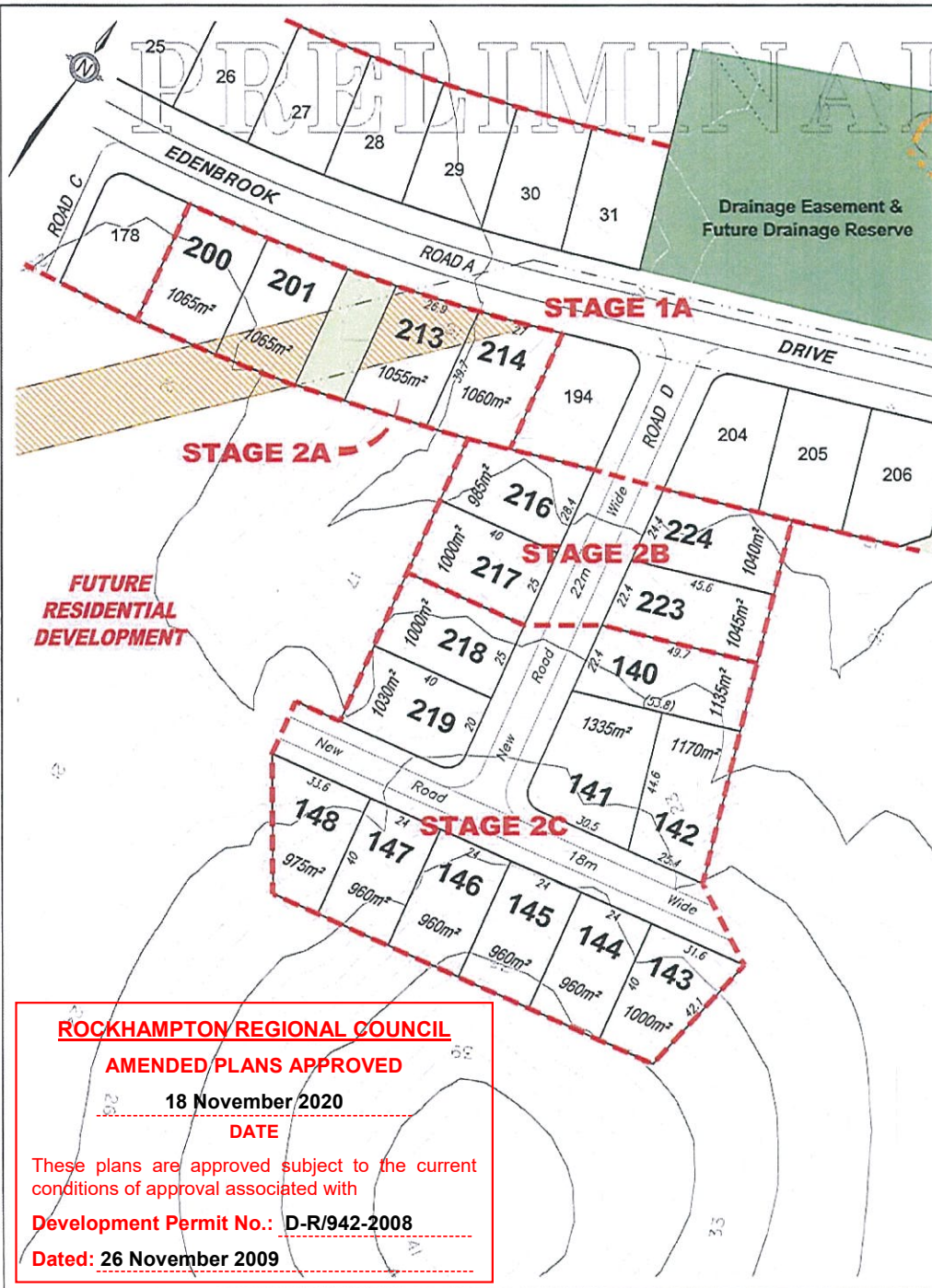
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scale
1:1000 @ A3
sheet no.
1 of 1
plan no.
6650-2C-ROL

datum
AHD 0.5m Contours
cad file
6650-2C-ROL-C
issue
C





DEVELOPMENT STATISTICS	
STAGE 2A	STAGE 2B
Total Stage Area 4890 m ²	Total Stage Area 5175 m ²
Total No. of Allotments 4	Total No. of Allotments 4
Pedestrian Connection / Road Reserve 635 m ²	Area of New Road 1102 m ²
	Total Length of New Road 50 m
	22.0m Wide Road 50 m
STAGE 2C	
Total Stage Area 1,545 ha	
Total No. of Allotments 11	
Area of New Road 3949 m ²	
Total Length of New Road 206 m	
18.0m Wide Road 150 m	
22.0m Wide Road 56 m	
LEGEND	
Q10 Line	Proposed Future Open Space
Stage Boundary	Proposed Pedestrian Connection / Road Reserve
Site Boundary	Road to be Closed - William Palfrey Drive

REVISION

A- Lot redesign and renumber
 B- Added Stage 1B into Stage. Added Primary Pedestrian cycle pathway.
 C- Lot 219 frontage to be 20m, take area from Lot 216.
 D- Amend Lot numbers
 E- Amend Lot Numbers
 F- Add sub staging
 G- Divide Stg 2B Bdy into 2B & 2C.
 H- Amend Park and Pathways
 I- Amend Lots, Stats and Text

Note
 All dimensions and areas are approximate only, and are subject to survey and Council approval.
 Dimensions have been rounded to the nearest 0.1 metres.
 Areas have been rounded down to the nearest 5m².
 The boundaries shown on this plan should not be used for final detailed engineers design.
 Contour details were supplied by Terranean Mapping Technologies.

CLIENT **EDENBROOKS DEVELOPMENTS**

PROJECT **PROPOSED SUBDIVISION**

STAGE 2 ALLOTMENT LAYOUT OVER LOT 45 ON SP 207745

Level Datum
 Origin

Date 19 MAY 2011
 Comp By: WW/TJE/KCH/GC
 DWG Name: 7119_PRO1
 Local Authority: ROCKHAMPTON REGIONAL COUNCIL

Locality

Job Reference: 7119-002

Scale 1: 1000 Sheet A2

Plan Ref 7119-46 Rev 1

RPS

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ROCKHAMPTON REGIONAL COUNCIL

AMENDED PLANS APPROVED

18 November 2020

DATE

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D-R/942-2008

Dated: 26 November 2009



Locality Map (Not to Scale)

EDENBROOK

Edenbrook - Rockhampton QLD
Landscape Concept Plan - Stage 2

PRELIMINARY FOR DISCUSSION PURPOSES ONLY

ROCKHAMPTON REGIONAL COUNCIL
AMENDED PLANS APPROVED

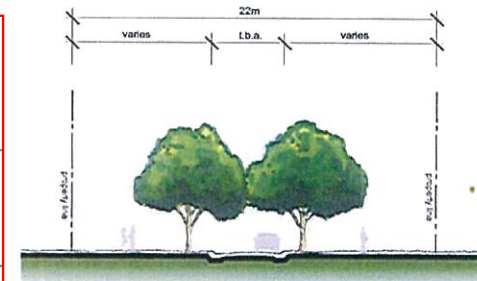
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Dated: 26 November 2009



Street Layout - Typical Section

scale 1:200



Pathway Network Connection - Character Images



For Stage 2 Streetscape generally, species may include but not be limited to the following:

Tree	
<i>Banksia integrifolia</i>	Lemon Scented Myrtle
<i>Flindersia australis</i>	Crow's Ash

Street Tree Planting Palette

CONICS

Scale 1:500 @ A1 | 10 MAY 2011 | Project No 72414L_CP_D2_1.01 (04)

NG GARDNER & ASSOCIATES PTY LTD

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with


Development Permit No.: D-R/942-2008

Dated: 26 November 2009

RAMSEY CREEK FLOOD STUDY ADJACENT BELMONT ROAD

Project No 534 for PMM
June 2005

Parameter	Value						
Scope	Determination of 1 in 100 year flood levels and inundation in a section of Ramsay Creek within the proposed area of the Roche Park development. The location of the proposed development is shown on Figure 434-01.						
Associated Drawings	Figure 434-01 – Topography Details Figure 434-02 – Water Surface Profiles Figure 434-03 – 1 in 100 Year Inundation Map						
River	Ramsay Creek						
Reach	Main reach of Ramsay Creek within extents of proposed development.						
Tidal	No.						
Type	Ephemeral						
Catchment Length	10.3km to downstream end of proposed development.						
Catchment Area	17.9km ² to downstream end of proposed development. Refer Figure 434-01.						
Catchment Type	Mixed rural and urban. Refer Figure 434-01.						
Catchment Development (Urbanisation)	Assumed that all areas with slopes less than 20% are developed (Ultimate scenario).						
Downstream Receiving Waters	Fitzroy River approximately 1.2km downstream of Belmont Road bridge crossing at the downstream end of the proposed development.						
Significant 'Tailwater' Effects from Downstream Outfall	Yes						
Study Section Extents For Flood Level Determination	Approximately 2.5km along creek centre line – <table><tr><td>243,345E</td><td>to</td><td>241,914E</td></tr><tr><td>7,421,613N</td><td>(GDA94)</td><td>7,420,971N</td></tr></table>	243,345E	to	241,914E	7,421,613N	(GDA94)	7,420,971N
243,345E	to	241,914E					
7,421,613N	(GDA94)	7,420,971N					

Parameter	Value												
In-Stream Controls	<p>Low level bridge crossing at Belmont Road approximately 100m downstream of the proposed development. This bridge has an estimated less than 1 in 2 year flood level immunity and minimum effect on flood levels for the 1 in 100 year event.</p> 												
Catchment Peak Flows	<p>Determined for current catchment type and development for total catchment. Over flow from the main Ramsay Creek into the tributary occurs for events higher than the 1 in 10 year ARI.</p> <table border="1"> <thead> <tr> <th>ARI Yrs</th><th>m³/s</th></tr> </thead> <tbody> <tr> <td>1</td><td>34</td></tr> <tr> <td>2</td><td>58</td></tr> <tr> <td>5</td><td>86</td></tr> <tr> <td>10</td><td>104</td></tr> <tr> <td>100</td><td>200</td></tr> </tbody> </table>	ARI Yrs	m ³ /s	1	34	2	58	5	86	10	104	100	200
ARI Yrs	m ³ /s												
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2	58												
5	86												
10	104												
100	200												
Gauging Data	<p>There is no stream gauging data for Ramsay Creek. The nearest relevant official recording station in the downstream receiving waters, Fitzroy River, is station Yaamba GS 13000 with intermittent flood level recordings from 1954 -1974. This station is approximately 22km in a straight line upstream of the junction with Ramsay Creek.</p>												
Previous Studies	<p>Previous studies carried out by:</p> <ul style="list-style-type: none"> (i.) CAC and Associates in 1993 for section of Ramsay Creek upstream of Yaamba Road. (ii.) N G Gardner and Associates in 2004 for section of Ramsay Creek upstream of Yaamba Road. (iii.) Numerous studies on the downstream Fitzroy River including the "Rockhampton Flood management Study". 												

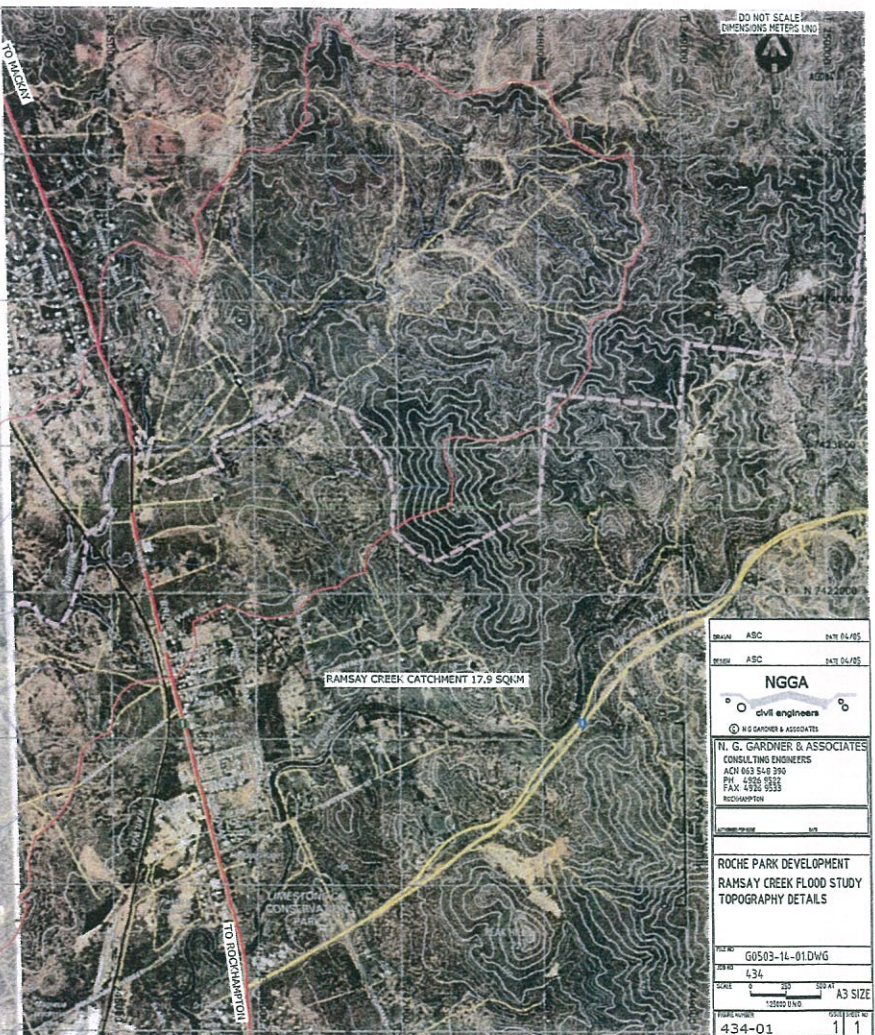
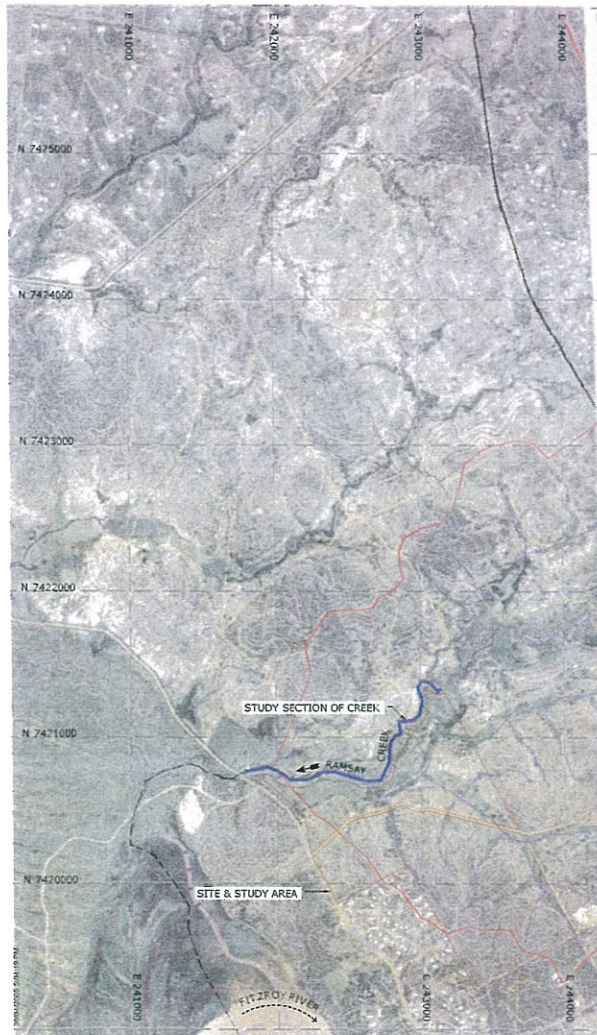
Parameter	Value
	(iv.) A 1 in 100 year flood level of RL11.6m has been provided by Fitzroy Water in the Fitzroy River at the junction with Ramsay Creek.
Recorded Flood Levels	None
Typical Creek Profile –	<p>Extensive vegetation, flat bed gradient, stable alluvial base. Vegetation becomes less dense closer to the junction with the Fitzroy River.</p> 
Creek Condition	No indication of any geomorphologic changes, no lateral or longitudinal instability or evidence of aggradation/degradation. Generally well vegetated.
Catchment Flow Computations	<p>The flows have been calculated using the RORB runoff routing procedure. There is no site specific gauging data to calibrate the model. The model has been calibrated using the 'Weeks' regional flood frequency model for Queensland coastal streams. Calibration parameters are summarised as follows-</p> <ul style="list-style-type: none"> • Initial rainfall loss 20mm • Continuing rainfall loss 5mm/hr • Storage coefficient, $K_c = 4.06$ • Empirical exponent $m = 0.8$
Rainfall Data	Intensity Frequency Duration Curves and temporal patterns determined from Australian Rainfall & Runoff published procedures and Australian wide database.
Flood Level Computations	1 in 100 year flood levels determined for the current catchment type and development using computer based HECRAS flood modelling package. Cross sections used in the modelling have been extracted from an aerial survey contour model obtained from the surveyor. Final adopted

Parameter	Value
	<p>roughness for the flood modelling (Mannings 'n') = 0.06 for the main channel and 0.08 for the areas outside the defined banks. Flood levels in the study section are effected by tailwater effects in the downstream receiving waters, Fitzroy River, and the design 1 in 100 year flood levels for this section of Ramsay Creek is determined as the worst combination of the following two scenario</p> <p>(i.) The 1 in 100 year event for Ramsay creek superimposed on a starting water level in the Fitzroy River for a corresponding 1 in 'Y' year flood event on the Fitzroy catchment where 'Y' is less than 100 years</p> <p>(ii.) The 1 in 100 year event in the Fitzroy river and corresponding 1 in 100 year starting water level at the junction with Ramsay Creek with the 1 in 'X' year event flood levels in Ramsay creek superimposed on this starting water level, where 'X' is less than 100 years.</p> <p>The Fitzroy catchment upstream of the Ramsay Creek junction is in excess 137,000 km² which is of the order of 7,653 times larger than the Ramsay Creek catchment. Therefore 'Y' will represent a flood generated from an extremely small portion of Fitzroy catchment and 'X' a flood generated from the full Ramsay Creek catchment but with a return period considerably less than 1 in 100 years and expected be certainly less than 5 years. Water surface level profiles for these two scenarios are presented on Figure 434-02. Scenario (ii) is plotted for a range of 'X' values from 1 year to 10 years based on a 1 in 100 year starting water level in the Fitzroy River provided by Fitzroy Water. There is no available starting water level for scenario (i) and this profile is plotted assuming no tailwater effects from the Fitzroy River. The plots indicate that it is fair to assume that the worst case combination is not sensitive to the starting water level for scenario (i) as any upstream afflux from the Fitzroy River in this case is likely to be less than that generated in scenario (ii) because of the extremely large difference in catchment areas.</p> <p>The adopted 1 in 100 year flood levels for Ramsay Creek are shown on Figure 434-03. In the absence of any gauging data it has not been possible to calibrate the Ramsay Creek flood model. The roughness values adopted have been based on visual interpretation. A sensitivity check has been performed by factoring up the roughness by 20% which resulted in increases in water levels of the order of 150 - 200mm. Similarly the sensitivity to the adopted design flow has been tested by factoring up the 1 in 100 year design flow by 20% which resulted in an increase in water level at the upstream end of the study section of the order o 300mm.</p>
Calculation Datum	Level Datum – AHD; Meridian Datum GDA94.
Qualifications	<ol style="list-style-type: none"> 1. The Flood level computations have been determined assuming no encroachments within the area of inundation from land fill, buildings or similar. 2. No assessment of geomorphology has been made other than the observations reported above.

Parameter	Value
	3. Flood level computations assume no impacts from downstream in-stream controls and or encroachments other than those detailed above. Future downstream developments or infrastructure may have an adverse effect on flood levels within the site.
Study Conclusions and Recommendations	This study has determined flood levels and the associated area of inundation for the 1 in 100 year design peak flow. Development levels within the site should be based on the calculated flood levels plus a freeboard allowance. An allowance of 500 - 1000mm for freeboard is recommended which includes an allowance for tolerances applied to the design flow calculations and assumed creek roughness values.



Prepared By:	Adrian Cox RPEQ 4321
Issued for use:	
<u>Limitations Statement</u> N G Gardner and Associates has prepared this report strictly in accordance with the details and limitations outlined in this report and the scope of services between the Client and N G Gardner and Associates. The data used in the preparation of this report has been primarily obtained from the sources outlined in the report and from aerial survey data provided by the client's surveyor. Catchment data has been determined using published topographic maps. No attempt has been made to verify the accuracy or currency of the data unless expressed otherwise in the report. The findings, accuracy and validity of this report are based solely on this data available at the time of preparing this report. The passage of time, manifestation of latent conditions or impacts of future events may require further exploration and subsequent data analysis, and re-evaluation of the findings, observations and conclusions expressed in this report. This report has been prepared on behalf of and for the exclusive use of the Client and N G Gardner and Associates accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by a third party.	



DO NOT SCALE
DIMENSIONS METERS UNO

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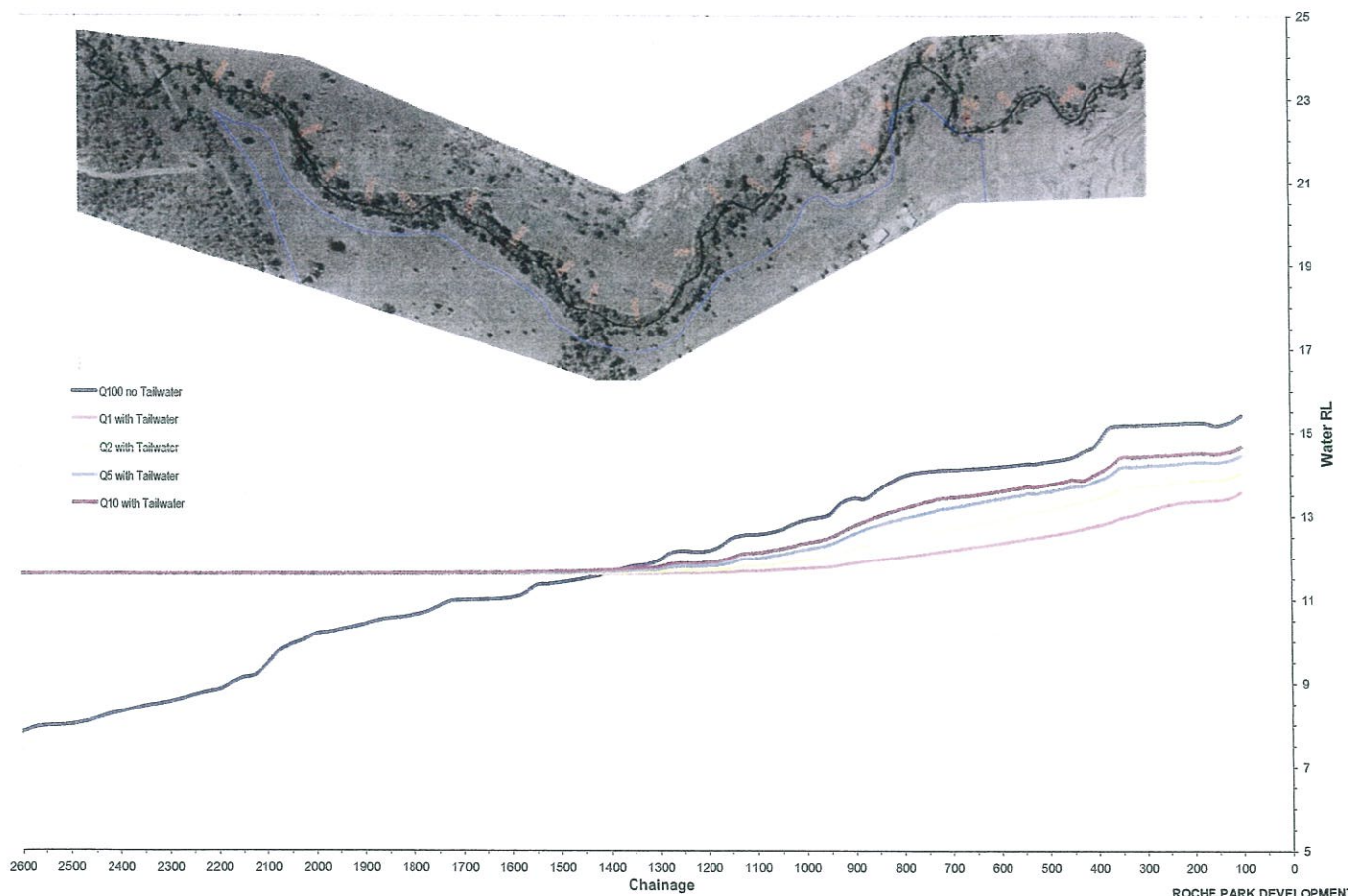
NGGA
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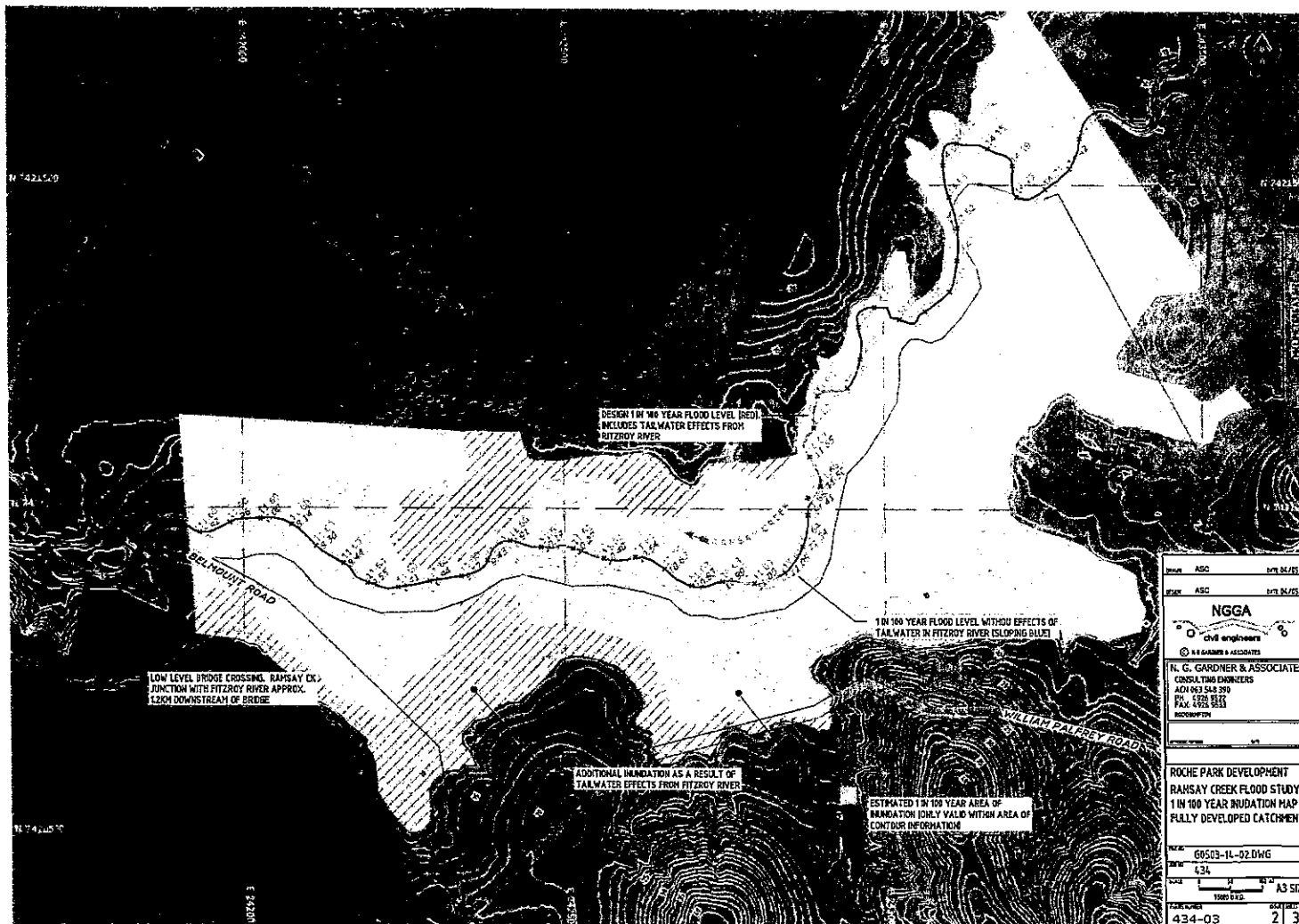
ROCHE PARK DEVELOPMENT
RAMSAY CREEK FLOOD STUDY
TOPOGRAPHY DETAILS

FILE NO G0503-14-01.DWG
JOB NO 434
SCALE 0 100 200 300 M
1:5000

FIGURAL NUMBER 434-01
DRAWING NO 1 | 1



ROCHE PARK DEVELOPMENT
 RAMSAY CREEK FLOOD STUDY
 WATER SURFACE PROFILES
 FIGURE 434-02



DATE	ASG	DATE
DATE	ASG	DATE
NGGA		
civil engineers		
N. G. GARDNER & ASSOCIATES		
CONSULTING ENGINEERS		
ADV. REG. NO. 290		
POL. 1978 9111		
DESCRIPTION		
ROCHE PARK DEVELOPMENT		
RAMSAY CREEK FLOOD STUDY		
1 IN 100 YEAR INUNDATION MAP		
FULLY DEVELOPED CATCHMENT		
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