PTY LTD. ABN 56 010 943 905. ACN 010 943 905 Design Excellence, Exceptional Service

The Chief Executive Officer, Mareeba Shire Council, P.O. Box 154, Mareeba Qld 4880 June 15, 2022 1470 R1 Part 2

Email: admin@jpced.com.au

Mobile: 0408 770 394

Attn: Mr. I. Armenti

Dear Sir,

RE: PRESTIGE GARDENS STAGES 1 to 6 - PROPOSED RESIDENTIAL SUBDIVISION AT CNR McIVER ROAD AND TILSE STREET, MAREEBA.

(MSC Ref. No. RAL 21/0024)

We submit the attached operational works application which has been reviewed and signed by Genesis Engineering (NQ) Pty. Ltd.

This application is for Prestige Gardens. Stages 1-6. The site is a vacant property located on the corner of McIver Road and Tilse Street in Mareeba. This application consists of 24 residential lots and includes partial reconstruction and widening of the existing carriageway in both McIver Road and Tilse Street together with the construction of the new Road A.

The applicable fee for an Operational Works Application is calculated to be \$4,915.00.

We seek your approval of these proposals and request that you issue an "Operational Works" permit to allow construction to commence.

Yours faithfully,

JIM PAPAS CIVIL ENGINEERING DESIGNER PTY, LTD.

JIM PAPAS

COVER SHEET

OPERATIONAL WORKS APPLICATION FOR PRESTIGE GARDENS STAGES 1-6

Job No. **1470**

Job Description: Proposed Residential Subdivision at cnr McIver Road and Tilse Street,

Mareeba

Client: Sibi Girgenti Holdings Pty. Ltd.

LIST OF CONTENTS

Part 1: This Cover Sheet.

Part 2: Covering Letter.

Part 3: Design Approval.

Part 4: Design Report.

Part 5: Project Report

Part 6: Development Conditions

Part 7: Design Drawings in a separate volume.

ATTACHMENTS

Appendix A - FNQROC Development Manual Forms

Statement of Compliance

Operational Works Receipting Checklist.

Appendix B - IDAS Form 1.

Appendix C - Copy of Development Conditions

2 x A3 copies of Design Drawings C01 – C23 inclusive plus cover sheet.

PART 3 - DESIGN APPROVAL

3.01 PRELODGEMENT DISCUSSIONS

No formal pre-lodgement discussions were held.

3.02 DESIGN REQUIREMENTS

We believe that this submission complies with the requirements of this section.

All aspects of this submission have been prepared under the direction of a Registered Professional Engineer Queensland. (RPEQ)

3.03 ADJOINING LAND OWNERS

No operational works are expected to be undertaken on adjoining private property. Some drainage and sewerage works shall be carried within the adjacent Drainage Reserve.

3.04 LOCAL AUTHORITY APPROVAL

Statement of Compliance is attached.

3.05 APPROVAL OF OTHER AGENCIES

No other agency's' conditions are relevant to this application.

3.06 SUPPORTING INFORMATION

Design Plans: Copies attached.

Job Specification: None provided, all the relevant information is on the plans and the

FNQROC Std. Specification will apply.

Design Report: A copy of the design report is attached.

Operational Works Application: Refer covering letter.

Prescribed Application Fee: The fee of \$ 4,915 is to be paid on receipt of a Tax Invoice issued by Council.

Evidence of Payment of Portable Long Service Leave and Occupational Health and safety fee: None provided, to be paid by the Contractor and evidence furnished at pre-start meeting.

PART4 - DESIGN REPORT

STATEMENT OF COMPLIANCE:

Copy of the completed Statement of Compliance is attached.

APPROVAL CONDITIONS

The conditions for this project were approved by Council in a Decision Notice dated April 20, 2022. An electronic copy of the approval is attached, together with a statement showing design compliance as applicable.

PRELODGEMENT DISCUSSIONS

No formal pre-lodgement discussions were held.

ADJOINING LANDOWNERS.

No operational works are expected to be undertaken on adjoining private property. Some drainage and sewerage works shall be carried within the adjacent Drainage Reserve

EVIDENCE OF NEGOTIATIONS WITH SERVICE AUTHORITIES

The electrical reticulation system including street lighting is to be designed and documented by Simon Perkins and Associates Pty. Ltd. Written advice in accordance with Council's Decision Notice will be provided by Simon Perkins and Associates Pty. Ltd. as soon as it is available.

Simon Perkins and Associates Pty. Ltd. will coordinate with NBN Co. Written advice in accordance with Council's Decision Notice from NBN Co. will be provided as soon as it is available.

STORMWATER DRAINAGE CALCULATIONS

Calculations supporting the stormwater drainage works to be constructed as part of this application are attached as Dwg 21.

CATCHMENT PLAN.

A catchment plan is attached as Dwg 20

ALTERNATIVE DESIGN

Not applicable.

STORMWATER DRAINAGE CALCULATIONS FOR DRAINAGE FEATURES Not Applicable.

PERMANENT STORMWATER QUALITY STRUCTURES Not applicable.

EROSION AND SEDIMENT CONTROL STRATEGY Refer to Dwg C04.

TRAFFIC MANAGEMENT PLAN

None provided at this time. Such a plan is properly the responsibility of the Contractor and it will be provided at the pre-start meeting.

WATER RETICULATION NETWORK

Not required as this development seeks to provide water reticulation by connecting two existing dead ends.

PAVEMENT DESIGN

Prior to design California Bearing Ratio (CBR) testing has not been undertaken for the site. The CBR is to be evaluated prior to construction by in situ CBR, and 4 day soaked CBR all

performed by a NATA registered materials testing authority using procedures prescribed by the Department of Main Roads and the Standards Association of Australia.

The pavement design shall be reassessed after completion of testing. For the purpose of the design the subgrade CBR is assumed to be 10.

GEOTECHNICAL REPORTS

Not applicable.

STRUCTURAL AND GEOTECHNICAL CERTIFICATION

Structural elements shall be subject to a future submission and certification by a structural engineer.

PUMPING STATIONS

Not applicable.

LANDSCAPE DESIGN

The landscaping requirements will be subject to a separate submission.

STAGED DEVELOPMENT

All the proposed lots are expected to be constructed under this application.

MATERIALS

All materials selected for use in this project are to industry standard and in accordance with FNQROC Standard Specification. All such materials shall be installed in accordance with the manufacturer's specifications and requirements

PRICED BILL OF QUANTITIES

Not provided, as it is not yet available. A priced Bill of Quantities shall be provided at pre-start meeting.

PEST PLANT MANAGEMENT

EXCESS SOIL

No soil material is to be removed from the site. All material won by excavation, cutting and general earthworks shall be incorporated within the works.

SHAKEDOWN AREA

Shake down and wash down areas shall be provided after consultation between Council officers and the Contractor. The position of these areas shall be shown on the Contractor's Erosion and soil Management Plan.

SALE OF PROPERTIES

The Contractor is responsible for the control of weeds and the Contract site generally until the end of the maintenance period.

PART 5 - PROJECT REPORT

1.0 GENERAL DESCRIPTION

The site is currently vacant and has frontage to both McIver Road and Tilse Street. The site was previously owned by the State.

The entire project encompasses 24 residential lots. This application covers all 24 lots and involves construction of a new road and widening and partial reconstruction of both McIver Road and Tilse Street.

The site is generally grassed with a slight slope.

2.0 ROADWORKS

The road network is designed in accordance with the Conditions.

All road pavements have been designed in accordance with FNQROC Design Manual and Austroads Guide to Pavement Technology Part 2 Pavement Structural Design.

A design life of 20 years has been adopted for all pavements.

Prior to design California Bearing Ratio (CBR) testing has not been undertaken for the site. The CBR is to be evaluated prior to construction by in situ CBR, and 4 day soaked CBR all performed by an NATA registered materials testing authority using procedures prescribed by the Department of Main Roads and the Standards Association of Australia.

The pavement design shall be reassessed after completion of testing. For the purpose of the design the subgrade CBR is assumed to be 10.

3.0 STORMWATER DRAINAGE

The stormwater drainage system has been designed using the rational Method in accordance with Australian Rainfall and Runoff (ARR) and the Queensland Urban Drainage Manual (QUDM)

In accordance with the QUDM recommendations, the minor system is contained within an underground system based on a 5 year return interval as appropriate. The major system design is based on an average return interval of 100 years. For the full system, this design uses a combination of the underground pipe system and overland flow although the drainage infrastructure in Stage 4 is designed to accept the flow from an average return interval of 100 years rainfall event in the underground system alone.

Calculation of pit locations is based on flow width limitations as detailed in QUDM and a recurrence interval of 5 years.

Times of concentration are based on QUDM standard inlet times.

Runoff coefficients have been established in accordance with QUDM.

Intensity figures have been obtained from FNQROC Design Manual IFD Chart 21 Yungaburra and Peeramon.

Pit capacities are based on FNQROC Design Manual Kerb Inlet Pit Design Charts including an appropriate blockage factor.

Road way capacities have been calculated using Manning's equation for all flows.

Pit and manhole losses have been estimated using charts in QUDM.

The stormwater design has been calculated using the latest version of PC Drain by Bandini Software Pty. Ltd.

The stormwater drainage comprises three parts.

There is an existing open drain in Tilse Street which diverts some water from a substantial upstream catchment to the drainage reserve which is located to the east and north of the site. The current design is to fully utilise the existing stormwater drainage infrastructure under the intersection of McIver Road and Tilse Street by diverting 4.50cumecs and conveying this discharge to the drainage reserve north of the site in an upgraded pipe. Clause 5.2(k) of the Decision Notice provides that Council will grant headworks credits for the additional cost of this work. The value of this work will be determined as part of the documentation associated with the tender for the construction of the works.

The second part consists of a standard stormwater drainage system designed in accordance with the QUDM and located in Road A and discharging north to the existing drainage reserve. A secondary drainage path is provided between Lots 9 and 24.

The final part is an existing overland flow path over an existing causeway in McIver Road through the existing drainage reserve and which discharges northwards. This flow path is essentially unaffected by the proposed works.

4.0 POTABLE WATER RETICULATION

All reticulation mains have been designed in accordance with the FNQROC Design Manual and the Department of Natural Resources and Mines "Planning Guidelines for Water Supply and Sewerage". The full extent of the water supply works is shown on Dwg. C07.

5.0 SEWERAGE RETICULATION

All reticulation mains have been designed in accordance with the FNQROC Design Manual and the Department of Natural Resources and Mines "Planning Guidelines for Water Supply and Sewerage". The full extent of the water supply works is shown on Dwg. C06.

5.0 ELECTRICAL AND TELECOMMUNICATION RETICULATIONS

The electrical reticulation system including street lighting is to be designed and documented by Simon Perkins and Associates Pty. Ltd. Written advice in accordance with Council's Decision Notice will be provided by Simon Perkins and Associates Pty. Ltd. as soon as it is available.

Simon Perkins and Associates Pty. Ltd. will coordinate with NBN Co. Written advice in accordance with Council's Decision Notice from NBN Co. will be provided as soon as it is available.

PART 6 - DEVELOPMENT CONDITIONS

Development Permit for Reconfiguring a Lot (1 Lot into 24 Lots)

Development No: RAL 21/0024 Date of Issue: April 20, 2022

1. Development Assessable Against the Planning Scheme

1 Not applicable to this application.

2. Reconfiguring a Lot – Subdivision (1 into 24 lots)

1 Not applicable to this application, requires action at a later time.

Timing of Effect

2.1 Not applicable to this application as it requires action at a future date.

Staging of the Development

- 3.1 It is not currently intended to construct the project in stages. This application is for the construction of all 24 lots.
- 3.2 Not applicable to this application no staged construction is currently intended.
- 3.3 This application seeks to comply with this condition in so far as it applies to this application.

General

- 4.1 Completed in so far as it applies to this application.
- 4.2 Not applicable to this application as this condition refers to payments at a later date.
- 4.3 Completed
- 4.4 Completed in so far as it applies to this application.
- 4.5 Completed
- 4.6 Not applicable to this application as this condition refers to payments at a later date.
- 4.7 Not applicable to this application and will be the subject of a separate submission to Council.

5 Infrastructure Services and Standards

- 5.1 Access Completed
- 5.2 Stormwater Drainage
 - (a) This condition is subject to a separate future submission to Council by a specialist consultant.
 - (b) This condition is subject to a separate future submission to Council by a specialist consultant.
 - (c) This condition is subject to a separate future submission to Council by a specialist consultant.
 - (d) This condition is subject to a separate future submission to Council by a specialist consultant.
 - (e) Not applicable to this application as it requires action at a future date.
 - (f) This application seeks to comply with this condition.
 - (g) Completed.
 - (h) Completed.
 - (i) Not applicable to this application as it requires action at a future date.
 - (j) Completed
 - (k) This condition is subject to a separate future submission to Council after the tender process for construction of the works is complete.

- 5.3 Earthworks Completed.
- 5.4 Roadworks Internal
 - (a) Completed.
 - (b) Completed.
- 5.5 Roadworks External Completed.
- 5.6 Water Supply
 - (a) Completed.
 - (b) Completed.
- 5.7 Sewerage Connection
 - (i) Completed.
- 5.8 Electricity provision / supply

The electrical reticulation system is to be designed and documented by Simon Perkins and Associates Pty. Ltd. The intent of this design work is to comply with this condition. Written advice as required by the condition shall be provided by Simon Perkins and Associates Pty. Ltd. as soon as it is available.

5.9 Telecommunications

Simon Perkins and Associates Pty. Ltd. will coordinate with NBN Co to provide telecommunications services are available to each lot as required by the condition.

5.10 Lighting

The street lighting is to be designed, documented and certified by Simon Perkins and Associates Pty. Ltd.

5.11 Street Tree Plantings

This condition is subject to a separate application by a landscape consultant.

- 5.12 Agricultural Buffering
 - 5.12.1 This condition is subject to a separate application by a landscape consultant.
 - 5.12.2 Completed
 - 5.12.3 Not applicable to this application as it requires action at a future date.

DA Form 1 – Development application details

Approved form (version 1.3 effective 28 September 2020) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development** (i.e. material change of use, operational work or reconfiguring a lot), use this form (*DA Form 1*) and parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).

PART 1 - APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (individual or company full name)	Sibi Girgenti Holdings Pty. Ltd.
Contact name (only applicable for companies)	Jim Papas
Postal address (P.O. Box or street address)	P.O. Box 452
Suburb	Mareeba
State	Qld
Postcode	4880
Country	Australia
Contact number	0408 770 394
Email address (non-mandatory)	admin@jpced.com.au
Mobile number (non-mandatory)	0408 770 394
Fax number (non-mandatory)	
Applicant's reference number(s) (if applicable)	1470

2) Owner's consent
2.1) Is written consent of the owner required for this development application?
☐ Yes – the written consent of the owner(s) is attached to this development application☑ No – proceed to 3)



PART 2 - LOCATION DETAILS

Note: P		elow and) or 3.2), and 3. In for any or all p				application. For further information, see <u>DA</u>
3.1) St	reet addres	s and lo	ot on pla	an					
☐ Str	eet address	AND I	ot on pla	an for a	ots must be liste an adjoining etty, pontoon. A	or adja			premises (appropriate for development in
	Unit No.	Stree	t No.	Stree	t Name and	Туре			Suburb
-1				Cnr McIver Road and Tilse Street			se Stre	eet	Mareeba
a)	Postcode	Lot N	0.	Plan	Type and Nu	ımber (e.g. RF	P, SP)	Local Government Area(s)
	4880	100		SP 2	76719				Mareeba Shire Council
	Unit No.	Stree	t No.	Stree	t Name and	Туре			Suburb
L١									
b)	Postcode	Lot N	0.	Plan	Type and Nu	ımber (e.g. RF	P, SP)	Local Government Area(s)
Note: P	g. channel drec lace each set o	dging in N of coordin	Moreton E nates in a	Bay) separat			note are	as, over part of a	a lot or in water not adjoining or adjacent to land
Longit		premis	Latitud		e and latitud	Datur	m		Local Government Area(s) (if applicable)
Longiti	uue(s)		Lalliu	ue(s)			'GS84		Local Government Area(s) (ii applicable)
						DA94			
	Other:								
☐ Co	ordinates of	premis	es by e	asting	and northing]			
			Local Government Area(s) (if applicable)						
					☐ 54	□W	☐ WGS84		
					55	☐ G	DA94		
					□ 56		ther:		
3.3) A	dditional pre	mises							
								ion and the d	etails of these premises have been
		chedule	to this	devel	opment appli	cation			
∐ INO	t required								
4) Ider	ntify any of t	he follo	wina th	at ann	ly to the pren	nises a	nd pro	vide any rele	vant details
					tercourse or				vant dotailo
	-		-			o. u		ar aquilor	
	Name of water body, watercourse or aquifer: On strategic port land under the <i>Transport Infrastructure Act 1994</i>								
Lot on plan description of strategic port land:									
Name of port authority for the lot:									
	a tidal area						<u> </u>		
		ernmer	nt for the	e tidal	area (if applica	able):			
ŀ	Name of local government for the tidal area (if applicable): Name of port authority for tidal area (if applicable):								
☐ On airport land under the <i>Airport Assets (Restructuring and Disposal) Act 2008</i>									
	of airport		۲		(9		1	

☐ Listed on the Environmental Management Register (EM	IR) under the Environmental Protection Act 1994
EMR site identification:	
Listed on the Contaminated Land Register (CLR) under	the Environmental Protection Act 1994
CLR site identification:	
5) Are there any existing easements over the premises? Note: Easement uses vary throughout Queensland and are to be identified how they may affect the proposed development, see <u>DA Forms Guide</u> .	ed correctly and accurately. For further information on easements and
Yes – All easement locations, types and dimensions an application	e included in plans submitted with this development
⊠ No	

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect
a) What is the type of development? (tick only one box)
☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work
b) What is the approval type? (tick only one box)
☑ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approva
c) What is the level of assessment?
☐ Code assessment ☐ Impact assessment (requires public notification)
d) Provide a brief description of the proposal (e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):
24 Residential lots
e) Relevant plans Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see <u>DA Forms guide:</u> Relevant plans.
Relevant plans of the proposed development are attached to the development application
6.2) Provide details about the second development aspect
a) What is the type of development? (tick only one box)
☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work
b) What is the approval type? (tick only one box)
☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval
c) What is the level of assessment?
Code assessment Impact assessment (requires public notification)
d) Provide a brief description of the proposal (e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):
e) Relevant plans
Note : Relevant plans are required to be submitted for all aspects of this development application. For further information, see <u>DA Forms Guide</u> : <u>Relevant plans</u> .
Relevant plans of the proposed development are attached to the development application
6.3) Additional aspects of development
Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application
Not required Signal Property of the Control of the

Section 2 – Further development details

7) Does the proposed developm	ent applic	cation invol	ve any of the follo	wing?					
Material change of use			division 1 if assess		t a local	planning instru	ument		
Reconfiguring a lot	Yes – complete division 2								
Operational work	∑ Yes – complete division 3								
Building work	Yes –	complete I	ete DA Form 2 – Building work details						
Division 1 – Material change of									
Note : This division is only required to be considered local planning instrument.	ompleted if a	any part of the	e development applica	tion involves a	material ci	nange of use asse	ssable against a		
8.1) Describe the proposed mate	erial chan	ge of use		_	_	_			
Provide a general description of proposed use	the		e planning schem h definition in a new ro			er of dwelling if applicable)	Gross floor area (m²) (if applicable)		
8.2) Does the proposed use invo	olve the u	se of existi	ng buildings on th	e premises?					
Yes									
□ No									
Division 2 – Reconfiguring a lot	+								
Note: This division is only required to be co		any part of the	e development applica	tion involves re	configurin	g a lot.			
9.1) What is the total number of	existing lo	ots making	up the premises?						
9.2) What is the nature of the lot	reconfigu	uration? (tic	k all applicable boxes)						
Subdivision (complete 10))			☐ Dividing land	into parts by	agreen	nent (complete 1	1))		
☐ Boundary realignment (comple	ete 12))		Creating or chefrom a constru			it giving access	s to a lot		
10) Subdivision									
10.1) For this development, how					ded use				
Intended use of lots created	Residential		Commercial Industrial		Other, please spec		specify:		
Number of lots created									
10.2) Will the subdivision be stage									
☐ Yes – provide additional deta☐ No	ils below								
How many stages will the works	include?			_					
What stage(s) will this developm apply to?									

11) Dividing land int parts?	o parts b	y agre	ement – how	/ many par	ts are being o	created and what	is the intended use of the		
Intended use of par	Intended use of parts created		Residential		mercial	Industrial	Other, please specify:		
Number of parts cre	r of parts created								
Training of paints of									
12) Boundary realig	nment								
12.1) What are the current and proposed areas for each lot comprising the premises?									
	Curre	ent lot			Proposed lot				
Lot on plan descrip	tion	Area	ı (m²)		Lot on plan	description	Area (m ²)		
12.2) What is the re	eason for	the bo	oundary reali	gnment?					
13) What are the di (attach schedule if there				existing e	asements bei	ing changed and	or any proposed easement?		
Existing or proposed?	Width (Length (m)	Purpose of pedestrian a	of the easeme	ent? (e.g.	Identify the land/lot(s) benefitted by the easement		
							·		
	<u>I</u>								
Division 3 – Operat									
Note: This division is only 14.1) What is the na					opment applicati	ion involves operatior	nal work.		
Road work	alure or li	ie ope		∖.] Stormwat	or	⊠ Water in	fractructure		
☐ Road work ☐ Drainage work			∇	Storriwat Earthworl		_	infrastructure		
Landscaping				Signage		= -	vegetation		
Other – please s	specify:								
14.2) Is the operation	onal work	nece	ssary to facili	tate the cre	eation of new	lots? (e.g. subdivis	ion)		
Yes – specify nu	ımber of	new lo	ots: 24						
□ No									
14.3) What is the m	onetary v	/alue d	of the propos	ed operation	onal work? (in	clude GST, materials	and labour)		
\$1,540,000 to be co	onfirmed.								
,									
PART 4 – ASS	ESSM	ENT	MANAG	ER DET	AILS				
15) Identify the ass	essment	mana	ger(s) who w	ill be asses	sing this dev	elopment applica	ation		
Mareeba Shire Cou									
16) Has the local go	overnmer	nt agre	ed to apply a	a supersed	ed planning s	scheme for this d	evelopment application?		
Yes – a copy of					•	• •			
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant document attached						equest – relevant documents			
⊠ No									

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements? Note: A development application will require referral if prescribed by the Planning Regulation 2017.
No, there are no referral requirements relevant to any development aspects identified in this development application − proceed to Part 6
Matters requiring referral to the Chief Executive of the Planning Act 2016:
☐ Clearing native vegetation
Contaminated land (unexploded ordnance)
Environmentally relevant activities (ERA) (only if the ERA has not been devolved to a local government)
☐ Fisheries – aquaculture
☐ Fisheries – declared fish habitat area
☐ Fisheries – marine plants
☐ Fisheries – waterway barrier works
☐ Hazardous chemical facilities
Heritage places – Queensland heritage place (on or near a Queensland heritage place)
☐ Infrastructure-related referrals – designated premises
☐ Infrastructure-related referrals – state transport infrastructure
☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
Infrastructure-related referrals – near a state-controlled road intersection
Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
Koala habitat in SEQ region – key resource areas
Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
Ports – Brisbane core port land – environmentally relevant activity (ERA)
Ports – Brisbane core port land – tidal works or work in a coastal management district
Ports – Brisbane core port land – hazardous chemical facility
Ports – Brisbane core port land – taking or interfering with water
Ports – Brisbane core port land – referable dams
Ports – Brisbane core port land – fisheries
Ports – Land within Port of Brisbane's port limits (below high-water mark)
SEQ development area
☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
SEQ regional landscape and rural production area or SEQ rural living area – community activity
SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
SEQ regional landscape and rural production area or SEQ rural living area – urban activity
SEQ regional landscape and rural production area or SEQ rural living area – combined use
Tidal works or works in a coastal management district
Reconfiguring a lot in a coastal management district or for a canal
Erosion prone area in a coastal management district
Urban design
Water-related development – taking or interfering with water
Water-related development – removing quarry material (from a watercourse or lake)
Water-related development – referable dams
Water-related development –levees (category 3 levees only)
Wetland protection area
Matters requiring referral to the local government:
☐ Airport land
Environmentally relevant activities (ERA) (only if the ERA has been devolved to local government)

☐ Heritage places – Local heritage places		
Matters requiring referral to the Chief Executive of the di	stribution entity or transmissi	on entity:
☐ Infrastructure-related referrals – Electricity infrastructur	е	
Matters requiring referral to:		
The Chief Executive of the holder of the licence, if	not an individual	
The holder of the licence, if the holder of the licence	is an individual	
☐ Infrastructure-related referrals – Oil and gas infrastruct	ure	
Matters requiring referral to the Brisbane City Council :		
Ports – Brisbane core port land		
Matters requiring referral to the Minister responsible for		
Ports – Brisbane core port land (where inconsistent with the	Brisbane port LUP for transport reasons)
Ports – Strategic port land		
Matters requiring referral to the relevant port operator , if		
Ports – Land within Port of Brisbane's port limits (below)		
Matters requiring referral to the Chief Executive of the re	-	
Ports – Land within limits of another port (below high-wate		
Matters requiring referral to the Gold Coast Waterways A	-	
☐ Tidal works or work in a coastal management district (ii	n Gold Coast waters)	
Matters requiring referral to the Queensland Fire and Em	9 9	
☐ Tidal works or work in a coastal management district (in	nvolving a marina (more than six vessel	berths))
18) Has any referral agency provided a referral response t		
☐ Yes – referral response(s) received and listed below ar☒ No	e attached to this development	application
Referral requirement	Referral agency	Date of referral response
1	3 ,	'
Identify and describe any changes made to the proposed	l	s the subject of the
referral response and this development application, or incl		
(if applicable).		' ''
PART 6 – INFORMATION REQUEST		
19) Information request under Part 3 of the DA Rules		
☐ I agree to receive an information request if determined	necessary for this development	application
☐ I do not agree to accept an information request for this		
Note: By not agreeing to accept an information request I, the applicant, a	_	
 that this development application will be assessed and decided bas application and the assessment manager and any referral agencies. Rules to accept any additional information provided by the applicant 	s relevant to the development application	n are not obligated under the DA

Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.

Further advice about information requests is contained in the <u>DA Forms Guide</u>.

PART 7 – FURTHER DETAILS

20) Are there any associated	development applications or o	current appr	ovals? (e.g. a prelii	minary approval)	
X Yes – provide details belo	w or include details in a sched	dule to this d	evelopment app	lication	
□ No					
List of approval/development application references	Reference number	Date		Assessment manager	
Approval	DAI 04/0004		00.000	Mareeba Shire	
Development application	RAL 21/0024	April	20,2022	Council	
Approval					
☐ Development application					
	·	•			
21) Has the portable long ser operational work)	vice leave levy been paid? (or	nly applicable to	o development applic	ations involving building work or	
☐ Yes – a copy of the receip	ted QLeave form is attached	to this devel	opment applicati	on	
	rovide evidence that the porta				
	ides the development application				
	val only if I provide evidence t	-			
	ng and construction work is le	SS triari \$ 150	1	,	
Amount paid	Date paid (dd/mm/yy)		QLeave levy nu	umber (A, B or E)	
\$					
notice?	cation in response to a show o	cause notice	or required as a	result of an enforcement	
☐ Yes – show cause or enfo	rcement notice is attached				
⊠ No					
23) Further legislative require	ments				
Environmentally relevant a	<u>ctivities</u>				
	olication also taken to be an a				
Environmentally Relevant A	Activity (ERA) under section ?	115 of the <i>E</i>	nvironmental Pro	otection Act 1994?	
	ment (form ESR/2015/1791) forment application, and details a			_	
⊠ No					
	tal authority can be found by searching to operate. See <u>www.business.qld.go</u>			m at <u>www.qld.gov.au</u> . An ERA	
Proposed ERA number:		Proposed E	RA threshold:		
Proposed ERA name:					
Multiple ERAs are applica this development application	ble to this development applic on.	ation and th	e details have be	een attached in a schedule to	
Hazardous chemical faciliti	<u>es</u>				
23.2) Is this development app	olication for a hazardous che	mical facilit	y ?		
	n of a facility exceeding 10%		_	ttached to this development	
application	, ,			•	
⊠ No	for further information about hazardo				
			.161 .1		

Clearing native vegetation
23.3) Does this development application involve clearing native vegetation that requires written confirmation that the chief executive of the <i>Vegetation Management Act 1999</i> is satisfied the clearing is for a relevant purpose under section 22A of the <i>Vegetation Management Act 1999</i> ?
Yes – this development application includes written confirmation from the chief executive of the <i>Vegetation Management Act 1999</i> (s22A determination)
Note: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development. 2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.
Environmental offsets
23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a prescribed environmental matter under the <i>Environmental Offsets Act 2014</i> ?
☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter
No Note: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.
Koala habitat in SEQ Region
23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?
Yes – the development application involves premises in the koala habitat area in the koala priority area
☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area☒ No
Note: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.des.gld.gov.au for further information.
Water resources
23.6) Does this development application involve taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the <i>Water Act 2000</i> ?
Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the <i>Water Act 2000</i> may be required prior to commencing development
No Note: Contact the Department of Natural Resources, Mines and Energy at www.dnrme.qld.gov.au for further information.
DA templates are available from https://planning.dsdmip.gld.gov.au/. If the development application involves:
 Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1 Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2 Taking overland flow water: complete DA Form 1 Template 3.
Waterway barrier works
23.7) Does this application involve waterway barrier works?
☐ Yes – the relevant template is completed and attached to this development application☐ No
DA templates are available from https://planning.dsdmip.qld.qov.au/ . For a development application involving waterway barrier works, complete DA Form 1 Template 4.
Marine activities
23.8) Does this development application involve aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?
Yes – an associated <i>resource</i> allocation authority is attached to this development application, if required under the <i>Fisheries Act 1994</i>
⊠ No

Note: See guidance materials at <u>www.daf.qld.gov.au</u> for further information.

Quarry materials from a watercourse or lake
23.9) Does this development application involve the removal of quarry materials from a watercourse or lake under the <i>Water Act 2000?</i>
☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development ☐ No
Note : Contact the Department of Natural Resources, Mines and Energy at www.business.qld.gov.au for further information.
Quarry materials from land under tidal waters
23.10) Does this development application involve the removal of quarry materials from land under tidal water under the <i>Coastal Protection and Management Act 1995?</i>
☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development ☐ No
Note: Contact the Department of Environment and Science at www.des.gld.gov.au for further information.
Referable dams
23.11) Does this development application involve a referable dam required to be failure impact assessed under section 343 of the <i>Water Supply (Safety and Reliability) Act 2008</i> (the Water Supply Act)?
Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application
No Note: See guidance materials at www.dnrme.qld.gov.au for further information.
Tidal work or development within a coastal management district
23.12) Does this development application involve tidal work or development in a coastal management district?
Yes – the following is included with this development application:
Evidence the proposal meets the code for assessable development that is prescribed tidal work (only required if application involves prescribed tidal work)
A certificate of title
No Note: See guidance materials at www.des.gld.gov.au for further information.
Queensland and local heritage places
23.13) Does this development application propose development on or adjoining a place entered in the Queensland heritage register or on a place entered in a local government's Local Heritage Register ?
☐ Yes – details of the heritage place are provided in the table below ☐ No
Note: See guidance materials at www.des.qld.gov.au for information requirements regarding development of Queensland heritage places.
Name of the heritage place: Place ID:
<u>Brothels</u>
23.14) Does this development application involve a material change of use for a brothel?
Yes – this development application demonstrates how the proposal meets the code for a development
application for a brothel under Schedule 3 of the <i>Prostitution Regulation 2014</i> ☑ No
Decision under section 62 of the <i>Transport Infrastructure Act 1994</i>
23.15) Does this development application involve new or changed access to a state-controlled road?
Yes – this application will be taken to be an application for a decision under section 62 of the <i>Transport Infrastructure Act 1994</i> (subject to the conditions in section 75 of the <i>Transport Infrastructure Act 1994</i> being
satisfied) No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation
23.16) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?
 ∑ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered □ No
Note : See guidance materials at <u>www.planning.dsdmip.qld.gov.au</u> for further information.

PART 8 - CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist	
I have identified the assessment manager in question 15 and all relevant referral	
requirement(s) in question 17	⊠ Yes
Note: See the Planning Regulation 2017 for referral requirements	
If building work is associated with the proposed development, Parts 4 to 6 of <u>DA Form 2 – Building work details</u> have been completed and attached to this development application	☐ Yes☑ Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application	
Note: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see <u>DA Forms Guide: Planning Report Template</u> .	Yes
Relevant plans of the development are attached to this development application Note : Relevant plans are required to be submitted for all aspects of this development application. For further information, see <u>DA Forms Guide</u> : Relevant plans.	⊠ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (see 21)	⊠ Yes
development permit is issued (see 21)	☐ Not applicable
25) Applicant declaration	
By making this development application, I declare that all information in this development correct	t application is true and
☑ Where an email address is provided in Part 1 of this form, I consent to receive future elec	
from the assessment manager and any referral agency for the development application w	
is required or permitted pursuant to sections 11 and 12 of the <i>Electronic Transactions Ac</i> Note : It is unlawful to intentionally provide false or misleading information.	t 2001
Privacy – Personal information collected in this form will be used by the assessment manage	er and/or chosen
assessment manager, any relevant referral agency and/or building certifier (including any pro	
which may be engaged by those entities) while processing, assessing and deciding the deve	elopment application.
All information relating to this development application may be available for inspection and p	ourchase, and/or
published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the <i>Planning Act 2016</i> ,	Dlanning
Regulation 2017 and the DA Rules except where:	Flaming
 such disclosure is in accordance with the provisions about public access to documents c 	ontained in the <i>Planning</i>
Act 2016 and the Planning Regulation 2017, and the access rules made under the Planning Regulation 2017; or	
required by other legislation (including the <i>Right to Information Act 2009</i>); or	
otherwise required by law.	
This information may be stored in relevant databases. The information collected will be retain Public Records Act 2002.	ned as required by the

PART 9 - FOR COMPLETION OF THE ASSESSMENT MANAGER - FOR OFFICE **USE ONLY**

Date received:	Reference numb	per(s):	
Notification of engagement of	of alternative assessment man	ager	
Prescribed assessment man	ager		
Name of chosen assessmen	t manager		
Date chosen assessment ma	anager engaged		
Contact number of chosen a	ssessment manager		
Relevant licence number(s)	of chosen assessment		
manager			
QLeave notification and pay	ment		
Note: For completion by assessmen	nt manager if applicable		
Description of the work			
QLeave project number			
Amount paid (\$)		Date paid (dd/mm/yy)	
Date receipted form sighted	by assessment manager		

Name of officer who sighted the form

FNQROC DEVELOPMENT MANUAL

Council	Mareeba Shire Council
	(INSERT COUNCIL NAME)

STATEMENT OF COMPLIANCE OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorised agent of the Designer shall be submitted with the Operational Works Application for Council Approval.

Name of D	Pevelopment Prestige Gardens Stages 1-6
Location o	of Development Cnr McIver Road and Tilse Street, Mareeba
Applicant	Sibi Girgenti Holdings Pty. Ltd.
Designer	Jim Papas Civil Engineering Designer Pty. Ltd. Reviewed and Certified by Genesis Engineering (NQ) Pty. Ltd.

It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the completed works comply with the requirements therein, **except** as noted below.

Compliance with the requirements of the Operational Works Design Guidelines	Non-Compliance refer to non-compliance report / drawing number
Plan Presentation	
Geotechnical requirements	
Geometric Road Design	
Pavements	
Structures / Bridges	Structural elements subject to a future submission by structural engineer
Subsurface Drainage	
Stormwater Drainage	
Site Re-grading	
Erosion Control and Stormwater Management	These elements subject to a future submission by a specialist consultant
Pest Plant Management	
Cycleway / Pathways	

Landscaping	
Water Source and Disinfection/Treatments	nt
Water Reticulation, Pump Stations and wat storages	er
Sewer Reticulation and Pump Stations	
Electrical Reticulation and Street Lighting	
Public Transport	
Associated Documentation/ Specification	
Priced Schedule of Quantities	
Referral Agency Conditions	
Supporting Information (AP1.08)	
Other	
behalf of: Designed by Jim Designer Reviewed and Ce	rtified by Craig Waters RPEQ No7419
Name in Full Craig Waters, Gene	esis Engineering
Signature	Date 17 June 2022



Operational Works Receipting Checklist (To be completed by Consulting engineer making the application)

Name of Council: Mareeba Shire Council

Development and Location: Name

Prestige Gardens Stages 1-6, Cnr McIver Road and Tilse Street, Mareeba

DESIGN SUBMISSION	CHECK	COMMENT
Completed 'Statement of Compliance' form. (FNQROC - AP1 – Appendix A)	Y	
IDAS Forms A ,E & IDAS Assessment Checklist (Available from www.ipa.qld.gov.au)	Y	
Payment of Engineering Application Fees (Copy of receipt to be attached)	Y	
4. Copy of Decision Notice for Development Application Conditions, inc. explanation of how each condition is to be addressed (Statement of Compliance)	Y	The fee of \$4,915 will be paid immediately on receipt of Council's Tax Invoice.
5. Engineering Design drawings - Complete sets (1 x A1 set, 2 x A3 sets and 1 x electronic copy on compact disc in 'PDF' format)	Y	
6. One copy of Design and Standard Specifications (Unbound Copy Preferable)		None provided, FNQROC Standard Spec to apply, other information usually in a specification is on the drawings.
7. Written consent from adjoining property owners authorising any works on their property	N.A.	
8. Water reticulation network in electronic format (Engineer to confirm system requirements and compatibility with Cairns Water)	N	
9. Landscape drawings - Complete set (1 x A1 set, 2 x A3 sets and 1 x electronic copy on compact disc in 'PDF' format). These must be accompanied by elements of the stormwater & street ltg. layout design, to avoid conflicts.		To be subject to a separate application

Page 1



Operational Works Receipting Checklist (To be completed by Consulting engineer making the application)

DESIGN SUBMISSION	CHECK	COMMENT
Overall network drawings (for staged development) for:		
Water	Υ	
Stormwater	Y	
Sewer	Y	
Pathways and roads	Y	
Street Lighting		By Simon Perkins and Associates Pty. Ltd.
Electrical		By Simon Perkins and Associates Pty. Ltd.
• Gas	N.A.	
Public Transport	N.A.	
Park Reserves		
Drainage Reserves	N.A.	
11. Pavement design criteria	Y	
12. Geotechnical reports for proposed earthworks	N.A.	
Structural and geotechnical certificates for retaining walls etc.		Prior to work commencing the structural elements of the project shall be the subject of a future submission from the structural engineer
14. Water supply/sewerage pump station design parameters	N.A.	
15. Stormwater drainage calculations	Y	
16. Erosion and Sediment Control Strategy (ESCS)	Y	Prior to work commencing the structural elements of the project shall be the subject of a future submission from a specialist consultant
17. Declared Pest Management Plan (if applicable)	N.A.	
18. The approval of any other Authorities & concurrence agencies likely to be affected by the works.	N.A.	



Operational Works Receipting Checklist (To be completed by Consulting engineer making the application)

19. Contact details of the Consulting Engineer who is submitting the Application:

Name of Engineer	Craig Waters		
Name of Company	Genesis Engineering		
Telephone Number (s)	Office:	Mobile:	0422 061 961
Email address	craig@genesisengnq.com.au		
RPEQ No.	7419		

20. Date of submission of application $...^{17}$. / ... / $\frac{06}{200}$ $\frac{2022}{...}$

(For further information on all of the above refer to the FNQROC Development Manual Section AP1)



21 April 2022

65 Rankin Street PO Box 154 MAREEBA QLD 4880

P: 1300 308 461 F: 07 4092 3323

W: www.msc.qld.gov.au E: info@msc.qld.gov.au

Senior Planner:

Brian Millard 4086 4657

Direct Phone: Our Reference:

RAL/21/0024

Your Reference:

F21/36

Sibi Girgenti Holdings Pty Ltd C/- Freshwater Planning Pty Ltd 17 Barronview Drive FRESHWATER QLD 4870

Dear Applicant/s

Decision Notice Planning Act 2016

I refer to your application and advise that on 20 April 2022, Council decided to approve the application in full subject to conditions.

Details of the decision are as follows:

APPLICATION DETAILS

Application No:

RAL/21/0024

Street Address:

Tilse Street and McIver Road, Mareeba

Real Property Description:

Lot 100 on SP276719

Planning Scheme:

Mareeba Shire Council Planning Scheme 2016

DECISION DETAILS

Type of Decision:

Approval

Development Permit for Material Change of Use for a Preliminary Approval including a variation request to vary the

effect of the Mareeba Shire Council Planning Scheme 2016 -

Type of Approval: Use rights in accordance with the

Use rights in accordance with the Low Density Residential zone and a Development Permit for Reconfiguring a Lot - Subdivision

(1 into 24 lots)

Date of Decision:

20 April 2022

CURRENCY PERIOD OF APPROVAL

The currency period for this development approval is listed below;

- Material Change of Use six (6) years (starting the day the approval takes effect).
- Reconfiguring a Lot six (6) years (starting the day the approval takes effect).

(Refer to Section 85 "Lapsing of approval at end of currency period" of the Planning Act 2016.)

INFRASTRUCTURE

Where conditions relate to the provision of infrastructure, these are non-trunk infrastructure conditions unless specifically nominated as a "necessary infrastructure condition" for the provision of trunk infrastructure as defined under Chapter 4 of the Planning Act 2016.

ASSESSMENT MANAGER CONDITIONS

- (A) ASSESSMENT MANAGER'S CONDITIONS (COUNCIL)
 - (a) <u>Development assessable against the Planning Scheme</u>
 - Material Change of Use for a Preliminary Approval including a variation request to vary the effect of the Mareeba Shire Council Planning Scheme 2016
 - 1. The assessment manager has approved a variation to an applicable local planning instrument, being the Mareeba Shire Council Planning Scheme 2016.
 - Under the approved variation, all development on Lot 100 on SP276719 must be carried out in accordance with the Mareeba Shire Council Planning Scheme 2016 and the Low Density Residential zone.

The Emerging Community zone will not be applicable to any development on Lot 100 on SP276719.

- 2. Reconfiguring a Lot Subdivision (1 lot into 24 lots)
 - Development must be carried out generally in accordance with the approved plans and the facts and circumstances of the use as submitted with the application, and subject to any alterations:
 - found necessary by the Council's delegated officer at the time of examination of the engineering plans or during construction of the development because of particular engineering requirements; and
 - to ensure compliance with the following conditions of approval.
 - 2. Timing of Effect
 - The conditions of the development permit must be complied with to the satisfaction of Council's delegated officer prior to the endorsement of the plan of survey for each stage of the development, or alternative documentation as approved by the Land Title Act, except where specified otherwise in these conditions of approval.
 - 3. Staging of Development
 - The construction of this development may be staged in accordance with the stage numbering shown on Drawing No. 1470 SK01 Amendment C dated 10.04.22 and as shown in **Table 1** below:

Table 1: Staging

Stage Number	Lots	
Stage 1	Lots 17-20	
Stage 2	Lots 12-16	

Lots 21-24	
Lots 9-12	
Lots 1-4	
Lots 5-8	
	Lots 9-12 Lots 1-4

A balance lot will be created up to the final stage.

- 3.2 Staged development may also be undertaken in any other sequence provided all infrastructure required to service the relevant stage is constructed.
- 3.3 The applicant/developer must comply with each condition of this development approval as it relates to each designated stage, unless otherwise stated in this approval.

4. General

- 4.1 The applicant/developer is responsible for the cost of necessary alterations to existing public utility mains, services or installations required by works in relation to the proposed development or any works required by condition(s) of this approval.
- 4.2 All payments or bonds required to be made to the Council pursuant to any condition of this approval or the Adopted Infrastructure Charges Notice must be made prior to the endorsement of the plan of survey, or alternative documentation as approved by the Land Title Act and at the rate applicable at the time of payment.
- 4.3 The developer must relocate (in accordance with FNQROC standards) any services such as water, sewer, drainage, telecommunications and electricity that are not wholly located within the lots that are being created/serviced where required by the relevant authority, unless approved by Council's delegated officer.
- 4.4 Where utilities (such as sewers on non-standard alignments) traverse lots to service another lot, easements must be created in favour of Council for access and maintenance purposes. The developer is to pay all costs (including Council's legal expenses) to prepare and register the easement documents.
- 4.5 All works must be designed, constructed and carried out in accordance with FNQROC Development Manual requirements (as amended) and to the satisfaction of Council's delegated officer.

4.6 Charges

All outstanding rates, charges, and expenses pertaining to the land are to be paid in full.

4.7 Bushfire Management

A Bushfire hazard management plan for the subject land must be prepared by suitably qualified person to the satisfaction of Council's delegated officer.

The future use of each lot must comply with the requirements of the bushfire hazard management plan at all times.

5. Infrastructure Services and Standards

5.1 Access

Access to each allotment must be constructed (from the edge of the road pavement to the property boundary of each lot) in accordance with the FNQROC Development Manual, to the satisfaction of Council's delegated officer.

The provision of roll-over kerb along the frontage of each allotment will satisfy this condition.

5.2 Stormwater Drainage

- (a) The applicant/developer must take all necessary steps to ensure a non-worsening effect on surrounding land as a consequence of the development.
- (b) Prior to works commencing the applicant must submit a Stormwater Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) that meets or exceeds the standards of design and construction set out in the Queensland Urban Drainage Manual (QUDM) and the FNQROC Development Manual to the satisfaction of Council's delegated officer.
- (c) Prior to works commencing the applicant must submit a Stormwater Quality Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) that meets or exceeds the standards of design and construction set out in the Urban Stormwater Quality Planning Guideline and the Queensland Water Quality Guideline to the satisfaction of Council's delegated officer.
- (d) The Stormwater Quality Management Plan must include an Erosion and Sediment Control Plan that meets or exceeds the Soil Erosion and Sedimentation Control Guidelines (Institute of Engineers Australia) to the satisfaction of Council's delegated officer.
- (e) The applicant/developer must construct the stormwater drainage infrastructure in accordance with the approved Stormwater Management Plan and/or Stormwater Quality Management Plan and Report.
- (f) Temporary drainage is to be provided and maintained during the construction phase of the development, discharged to a lawful point and not onto the construction site.
- (g) All stormwater channels through private property must be registered, with the easement for drainage purposes in favour of Council. All documentation leading to the registration of the easement must be completed at no cost to Council.
- (h) All stormwater drainage collected from the site must be discharged to an approved legal point of discharge.

- (i) The applicant (at their cost) must video all stormwater lines and submit the video for inspection by Council's delegated officer prior to the development being taken "off maintenance" to ensure that no defects have occurred during the 12 month maintenance period.
- (j) All drainage easements must be constructed to prevent erosion. Construction may be in the form of a concrete invert, with outlet protection.
- (k) To complete the subject site's Tilse Street frontage to a reasonable standard to service the stormwater catchment, Council will credit the cost difference for the additional design and construction of the following required works against infrastructure charges associated with the proposed development:
 - (i) Fill the existing open drain with approved material, including compaction and testing, reprofiling and vegetation with suitable grass species
 - (ii) Provide underground drainage in Tilse Street connecting the existing Council infrastructure in McIver Road to an outlet in Tilse Street generally in accordance with layout shown on Drawing No. 1470 - SK03 Amendment B dated 10.04.22. The works shall include manholes, kerb inlet pits, headwall and wingwalls at outlet, outlet protection and any excavation required for any outlet drain together with revegetation of this drain.
 - (iii) The design drawings for the above must be lodged with Council for approval, and once approved, included in the tender documentation under a separate scheduled item for cost identification purposes.

5.3 Earthworks

All earthworks must be carried out in accordance with the requirements of the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer.

All formed batters must be located outside the road reserves.

5.4 Roadworks - Internal

- (a) The new internal road is to be constructed to Access Street standard in accordance with the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer.
- (b) A two (2) metre wide concrete footpath must be installed on at least one (1) side of the internal road. The horizontal alignment of the footpath is to be determined at operational works stage.

5.5 Roadworks - External

McIver Road and Tilse Street must be upgraded for the full frontage of Lot 100 on SP276719 to the general extent shown on Drawing No. 1470 - SK01 Amendment C dated 10.04.22.

These works should generally include the following:

- The widening of the development side of McIver Road and Tilse Street;
- the installation of kerb and channel on the development side of McIver
 Road and Tilse Street for the full frontage of Lot 100 on SP276719; and
- All required underground stormwater infrastructure.

Plans for the abovementioned works must be submitted to Council as part of a subsequent application for operational works.

5.6 Water Supply

- (a) Where the existing reticulated water supply does not currently service the site or is not at an adequate capacity, the developer is required to extend or upgrade the reticulated water supply infrastructure to connect the site to Council's existing infrastructure at a point that has sufficient capacity to service the development in accordance with FNQROC Development Manual standards (as amended).
- (b) A water service connection must be provided to each proposed lot in accordance with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer.

5.7 Sewerage Connection

The developer must connect the proposed development to Council's reticulated sewerage system in accordance with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer.

Where sewerage connections are not available to the site, or where existing connections are not satisfactory for the proposed development, the developer is required to extend or upgrade the reticulated sewerage infrastructure to connect the site to Council's existing infrastructure at a point that has sufficient capacity to service the development in accordance with FNQROC Development Manual standards (as amended).

5.8 Electricity provision/supply

The applicant/developer must ensure that an appropriate level of electricity supply is provided to each allotment in accordance with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer.

Written advice from an Electricity Service Provider is to be provided to Council indicating that an agreement has been made for the provision of <u>underground</u> power reticulation.

5.9 Telecommunications

The applicant/developer must enter into an agreement with a telecommunication carrier to provide telecommunication services to each allotment and arrange provision of necessary conduits and enveloping pipes.

5.10 Lighting

Street lighting must be provided to all roads in accordance with FNQROC Development requirements (as amended) and to the satisfaction of Council's delegated officer.

5.11 Street Trees

One (1) street tree must be at the planted at centre of each lot's road frontage. Corner allotments must have a street tree planted on each frontage.

All street trees must be provided in accordance with the FNQROC Development Manual - Design Manual D9 Landscaping.

5.12 Agricultural Buffering

- 5.12.1 As part of Stage 1, a 10 metre wide vegetation buffer is to be planted within the proposed residential allotments along the alignment of McIver Road generally indicated on Drawing No. 1470 SK01 Amendment C dated 10.04.22. The vegetation must have a minimum height at maturity of 4 metres. The plan depicting species and areas to be planted must be submitted to Council's delegated officer for approval prior to the issue of a development permit for operational works. The buffer must be planted in accordance with the approved plan.
- 5.12.2 As part of Stage 1, a colourbond fence of 1.8 metres in height shall be erected along the entire McIver Road frontage on the southern side of the vegetation buffer required by Condition 5.12.1.
- 5.12.3 The vegetation buffer and fence must be maintained by the applicant and any subsequent owner of any part of the land affected by this condition. Statutory covenant/s must be created over vegetation buffer to ensure it is maintained by the applicant and any subsequent owner of respective allotment.

REFERRAL AGENCIES

Not Applicable.

APPROVED PLANS

The following plans are Approved plans for the development:

Plan/Document Number	Plan/Document Title	Prepared by	Dated
1470 - SK01 Amdt C	General Arrangements and Lot Dimensions	Jim Papas Civil Engineering Designer Pty Ltd	10.04.22
1470 - SK03 Amdt B	Probable Earthworks, Roadworks and Stormwater Drainage Layout	Jim Papas Civil Engineering Designer Pty Ltd	10.04.22

ADVISORY NOTES

The following notes are included for guidance and information purposes only and do not form part of the assessment manager conditions:

(A) ASSESSMENT MANAGER'S ADVICE

- (a) An Adopted Infrastructure Charges Notice has been issued with respect to the approved development. The Adopted Infrastructure Charges Notice details the type of infrastructure charge/s, the amount of the charge/s and when the charge/s are payable.
- (b) The Adopted Infrastructure Charges Notice does not include all charges or payments that are payable with respect to the approved development. A number of other charges or payments may be payable as conditions of approval. The applicable fee is set out in Council's Fees & Charges Schedule for each respective financial year.

(c) Easement Documents

Council has developed standard easement documentation to assist in the drafting of formal easement documents for Council easements. Please contact the Planning Section for more information regarding the drafting of easement documents for Council easements.

(d) Endorsement Fees

Council charges a fee for the endorsement of a Survey Plan, Community Management Statements, easement documents, and covenants. The fee is set out in Council's Fees & Charges Schedule applicable for each respective financial year.

(e) Compliance with applicable codes/policies

The development must be carried out to ensure compliance with the provisions of Council's Local Laws, Planning Scheme Policies, Planning Scheme and Planning Scheme Codes to the extent they have not been varied by a condition of this approval.

(f) Notation on Rates Record

A notation will be placed on Council's Rate record with respect to each lot regarding the following conditions:

- a registered covenant
- conditions regarding bushfire management
- an approved bushfire management plan
- a registered easement over the subject site

(g) Environmental Protection and Biodiversity Conservation Act 1999

The applicant is advised that referral may be required under the *Environmental Protection and Biodiversity Conservation Act 1999* if the proposed activities are likely to have a significant impact on a matter of national environmental significance.

Further information on these matters can be obtained from www.environment.gov.au.

(h) Cultural Heritage

In carrying out the activity the applicant must take all reasonable and practicable measures to ensure that no harm is done to Aboriginal cultural heritage (the "cultural heritage duty of care"). The applicant will comply with the cultural heritage duty of care if the applicant acts in accordance with gazetted cultural heritage duty of care guidelines. An assessment of the proposed activity against the duty of care guidelines will determine whether or to what extent Aboriginal cultural heritage may be harmed by the activity. Further information on cultural heritage, together with a copy of the duty of care guidelines and cultural heritage search forms, may be obtained from www.datsip.qld.gov.au.

PROPERTY NOTES

Not Applicable.

FURTHER DEVELOPMENT PERMITS REQUIRED

Development Permit for Operational Works

SUBMISSIONS

There were four (4) properly made submissions received about the application. In accordance with the *Planning Act 2016*, the name and residential or business address of the principal submitter for each properly made submission is provided below:

Name of Principal submitter	Address	
1. BTM&S Stankovich	PO Box 1732, Mareeba QLD 4880	
2. S Murat, P Murat & Stelbay Pty Ltd	PO Box 258, Mareeba QLD 4880	
3. V & L Schwerdtfeger	PO Box 91, Mareeba QLD 4880	
4. D Saul	davesaul35@gmail.com	

RIGHTS OF APPEAL

You are entitled to appeal against this decision. A copy of the relevant appeal provisions from the *Planning Act 2016* is attached.

During the appeal period, you as the applicant may suspend your appeal period and make written representations to council about the conditions contained within the development approval. If council agrees or agrees in part with the representations, a "negotiated decision notice" will be issued. Only one "negotiated decision notice" may be given. Taking this step will defer your appeal period, which will commence again from the start the day after you receive a "negotiated decision notice".

OTHER DETAILS

If you wish to obtain more information about Council's decision, electronic copies are available on line at www.msc.qld.gov.au, or at Council Offices.

Yours faithfully

BRIAN MILLARD SENIOR PLANNER

Enc:

Approved Plans/Documents

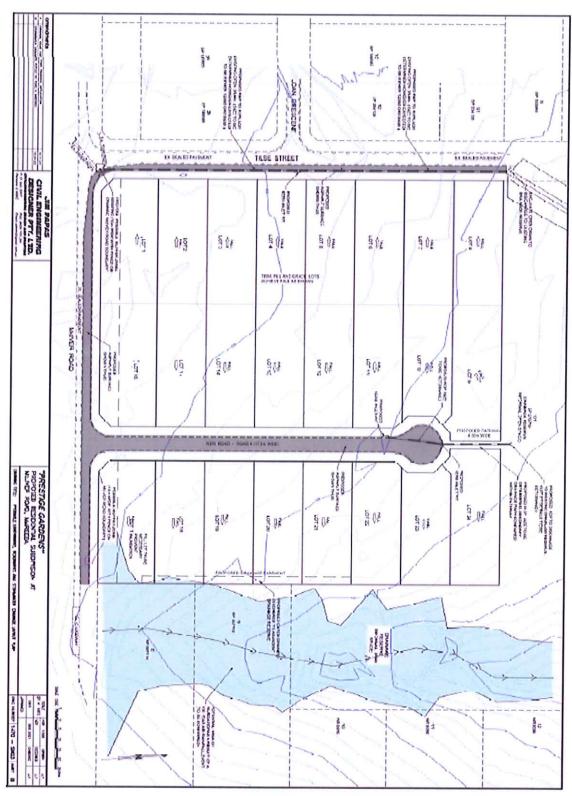
Appeal Rights

Adopted Infrastructure Charge Notice

Approved Plans/Documents



21/4/2022 B,n D





Appeal Rights

PLANNING ACT 2016 & THE PLANNING REGULATION 2017

Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

(1) Schedule 1 of the Planning Act 2016 states -

- (a) Matters that may be appealed to -
 - (i) either a tribunal or the P&E Court; or
 - (ii) only a tribunal; or
 - (iii) only the P&E Court; and
 - (b) The person-
 - (i) who may appeal a matter (the appellant); and
 - (ii) who is a respondent in an appeal of the matter; and
 - (iii) who is a co-respondent in an appeal of the matter; and
 - (iv) who may elect to be a co-respondent in an appeal of the matter.

(Refer to Schedule 1 of the Planning Act 2016)

- (2) An appellant may start an appeal within the appeal period.
- (3) The appeal period is -
 - (a) for an appeal by a building advisory agency 10 business days after a decision notice for the decision is given to the agency; or
 - (b) for an appeal against a deemed refusal at any time after the deemed refusal happens; or
 - (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises 20 business days after a notice us published under section 269(3)(a) or (4); or
 - (d) for an appeal against an infrastructure charges notice 20 business days after the infrastructure charges notice is given to the person; or
 - (e) for an appeal about a deemed approval of a development application for which a decision notice has not been given 30 business days after the applicant gives the deemed approval notice to the assessment manager; or
 - (f) for any other appeal 20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note -

See the P&E Court Act for the court's power to extend the appeal period.

- (4) Each respondent and co-respondent for an appeal may be heard in the appeal.
- (5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
- (6) To remove any doubt. It is declared that an appeal against an infrastructure charges notice must not be about-
 - (a) the adopted charge itself; or

- (b) for a decision about an offset or refund-
 - (i) the establishment cost of trunk infrastructure identified in a LGIP; or
 - (ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

- (1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that-
 - (a) is in the approved form; and
 - (b) succinctly states the grounds of the appeal.
- (2) The notice of appeal must be accompanied by the required fee.
- (3) The appellant or, for an appeal to a tribunal, the registrar must, within the service period, give a copy of the notice of appeal to
 - (a) the respondent for the appeal; and
 - (b) each co-respondent for the appeal; and
 - (c) for an appeal about a development application under schedule 1, table 1, item 1 each principal submitter for the development application; and
 - (d) for and appeal about a change application under schedule 1, table 1, item 2 each principal submitter for the change application; and
 - (e) each person who may elect to become a co-respondent for the appeal, other than an
 eligible submitter who is not a principal submitter in an appeal under paragraph (c)
 or (d); and
 - (f) for an appeal to the P&E Court the chief executive; and
 - (g) for an appeal to a tribunal under another Act any other person who the registrar considers appropriate.
- (4) The service period is -
 - (a) if a submitter or advice agency started the appeal in the P&E Court 2 business days after the appeal has started; or
 - (b) otherwise 10 business days after the appeal is started.
- (5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).
- (6) A person elects to be a co-respondent by filing a notice of election, in the approved form, within 10 business days after the notice of appeal is given to the person.

231 Other appeals

- (1) Subject to this chapter, schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.
- (2) The *Judicial Review Act 1991*, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.
- (3) A person who, but for subsection (1) could have made an application under the Judicial Review Act 1991 in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.
- (4) In this section -

decision includes-

- (a) conduct engaged in for the purpose of making a decision; and
- (b) other conduct that relates to the making of a decision; and
- (c) the making of a decision or failure to make a decision; and
- (d) a purported decision; and

- (e) a deemed refusal.
- non-appealable, for a decision or matter, means the decision or matter-
- (a) is final and conclusive; and
- (b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the Judicial Review Act 1991 or otherwise, whether by the Supreme Court, another court, a tribunal or another entity; and
- (c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, a tribunal or another entity on any ground.

232 Rules of the P&E Court

- (1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.
- (2) However, the P&E Court may hear and decide an appeal even if the person has not complied with the rules of the P&E Court.

PRESTIGE GARDENS ESTATE STAGES 1-6 PROPOSED RESIDENTIAL SUBDIVISION AT CNR McIVER ROAD AND TILSE STREET MAREEBA

PROJECT DRAWINGS

PROJECT No. 1470

C 01 - EXISTING SITE PLAN.

C 02 - TYPICAL CROSS SECTIONS, PAVEMENT DATA AND DETAILS.

C 03 - BULK EARTHWORKS PLAN.

C 04 - SOIL AND WATER STRATEGY.

C 05 - EARTHWORKS, ROADWORKS & STORMWATER DRAINAGE PLAN.

C 06 - SEWERAGE RETICULATION PLAN.

C 07 - WATER RETICULATION PLAN.

C 08 - DETAILS OF INTERSECTION, CUL DE SAC AND OUTLET DRAINS.

C 09 - PROVISIONAL DESIGN OF STRUCTURAL DETAILS OF MANHOLE 2/1.

C 10 - McIVER ROAD/ TILSE STREET - LONGITUDINAL SECTION AND SET OUT.

C 11 - McIVER ROAD/ TILSE STREET - CROSS SECTIONS (SHEET 1 OF 3).

C 12 - McIVER ROAD/ TILSE STREET - CROSS SECTIONS (SHEET 2 OF 3).

C 13 - McIVER ROAD/ TILSE STREET - CROSS SECTIONS (SHEET 3 OF 3).

C 14 - ROAD A - LONGITUDINAL SECTION AND SET OUT.

C 15 - ROAD A - CROSS SECTIONS (SHEET 1 OF 1).

C 16 -CATCH DRAIN No. 1 - LONGITUDINAL AND CROSS SECTIONS. TYPICAL CROSS SECTION AND SET OUT.

C 17 - STORMWATER DRAINAGE LONGITUDINAL SECTIONS, PIT SCHEDULE, SET OUT AND NOTES.

C 18 - SEWERAGE RETICULATION LONGITUDINAL SECTION (SHEET 1 OF 2).

C 19 - SEWERAGE RETICULATION LONGITUDINAL SECTION (SHEET 2 OF 2) AND SET OUT.

C 20 - STORMWATER DRAINAGE CATCHMENT PLAN.

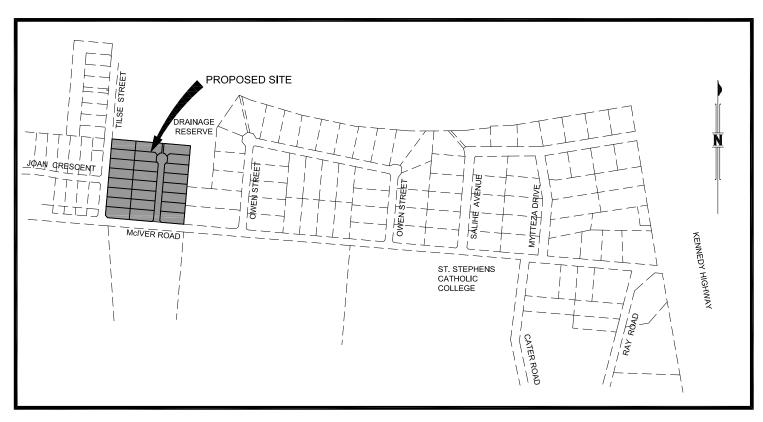
C 21 - STORMWATER DRAINAGE CALCULATION SHEET.

C 22 - STORMWATER DRAINAGE SYSTEM WITHOUT ANY CONTRIBUTING EXTERNAL CATCHMENTS

C 23 - STORMWATER DRAINAGE CALCULATION SHEET FOR DRAINAGE SYSTEM WITHOUT ANY CONTRIBUTING EXTERNAL CATCHMENTS

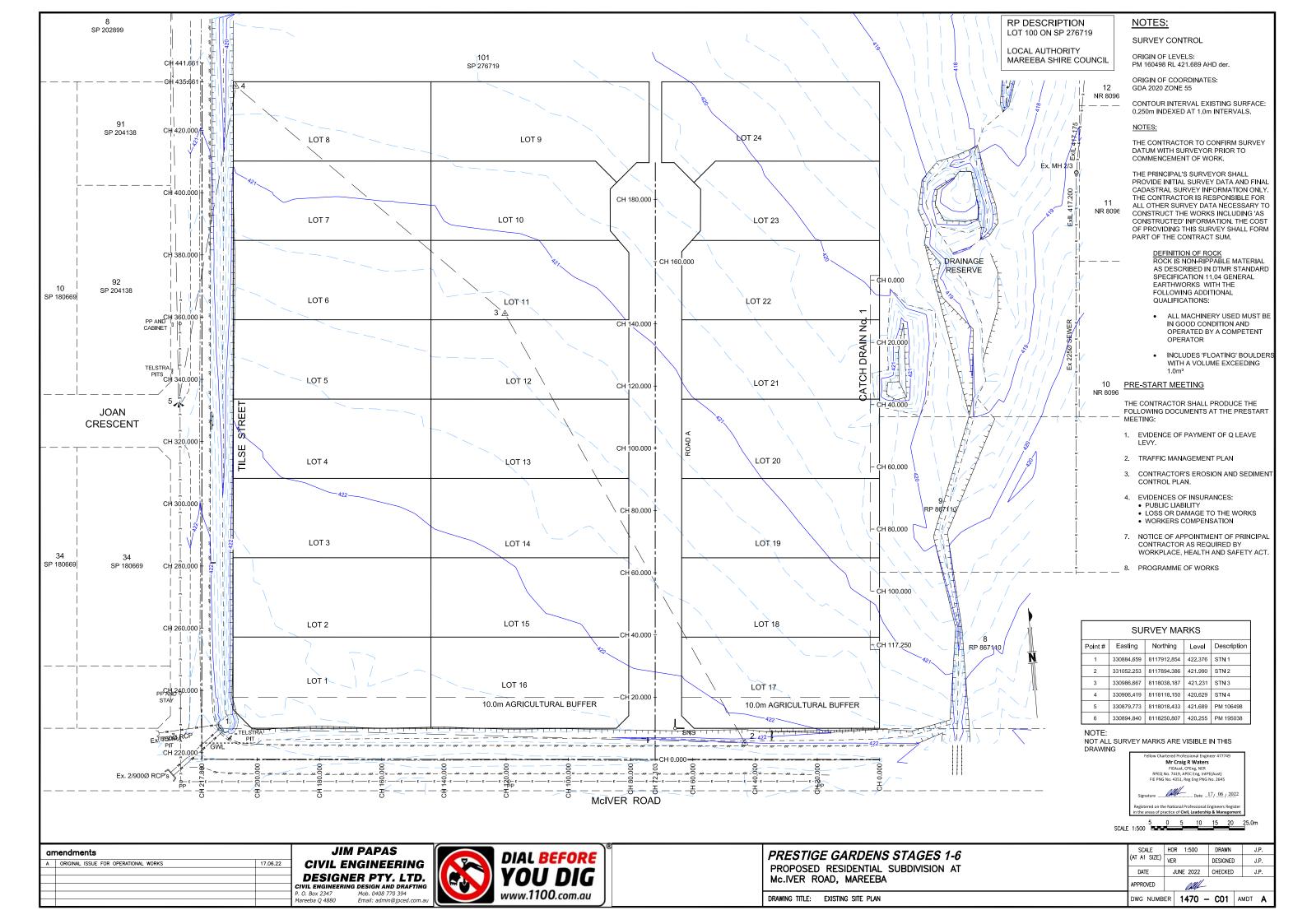
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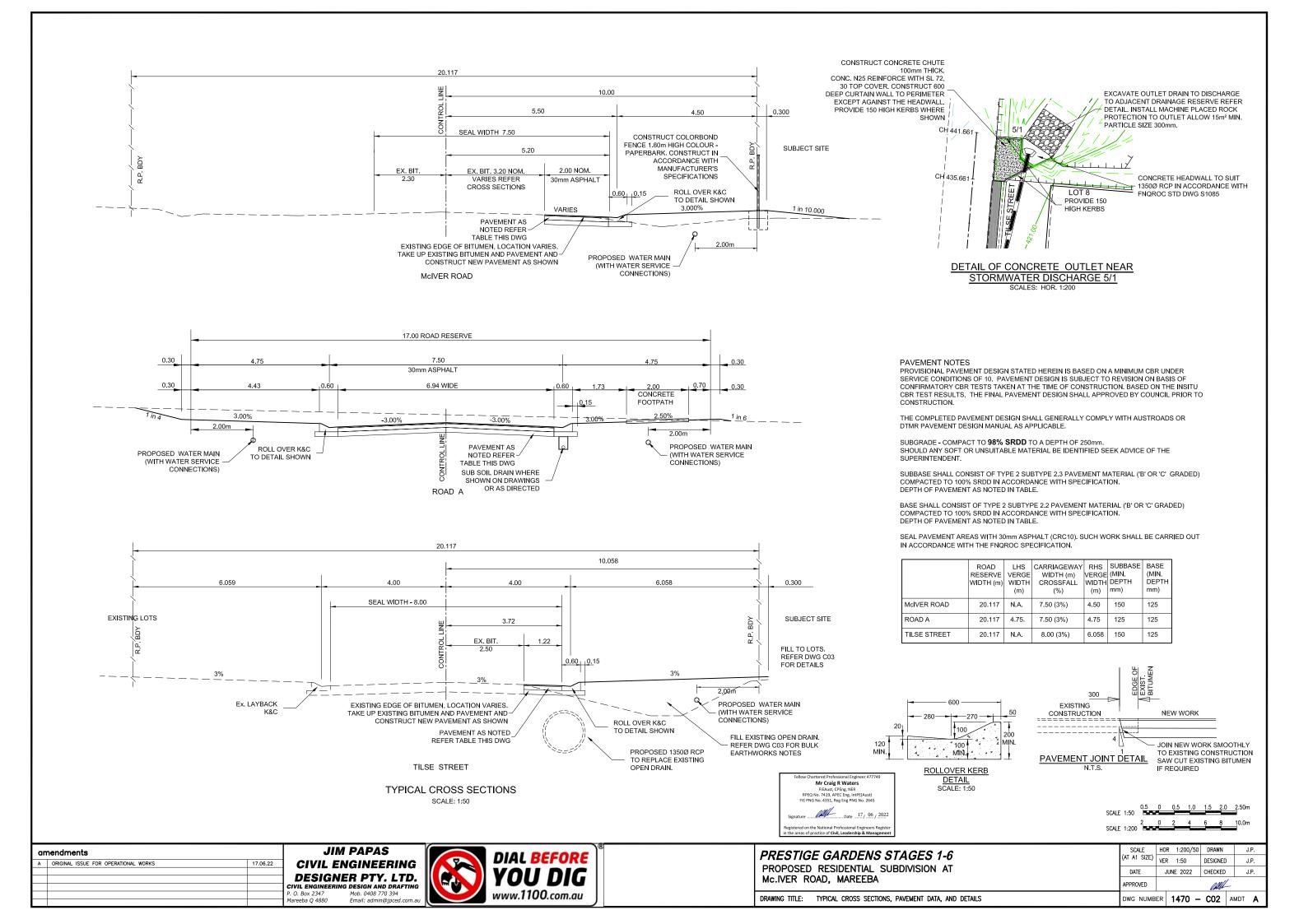


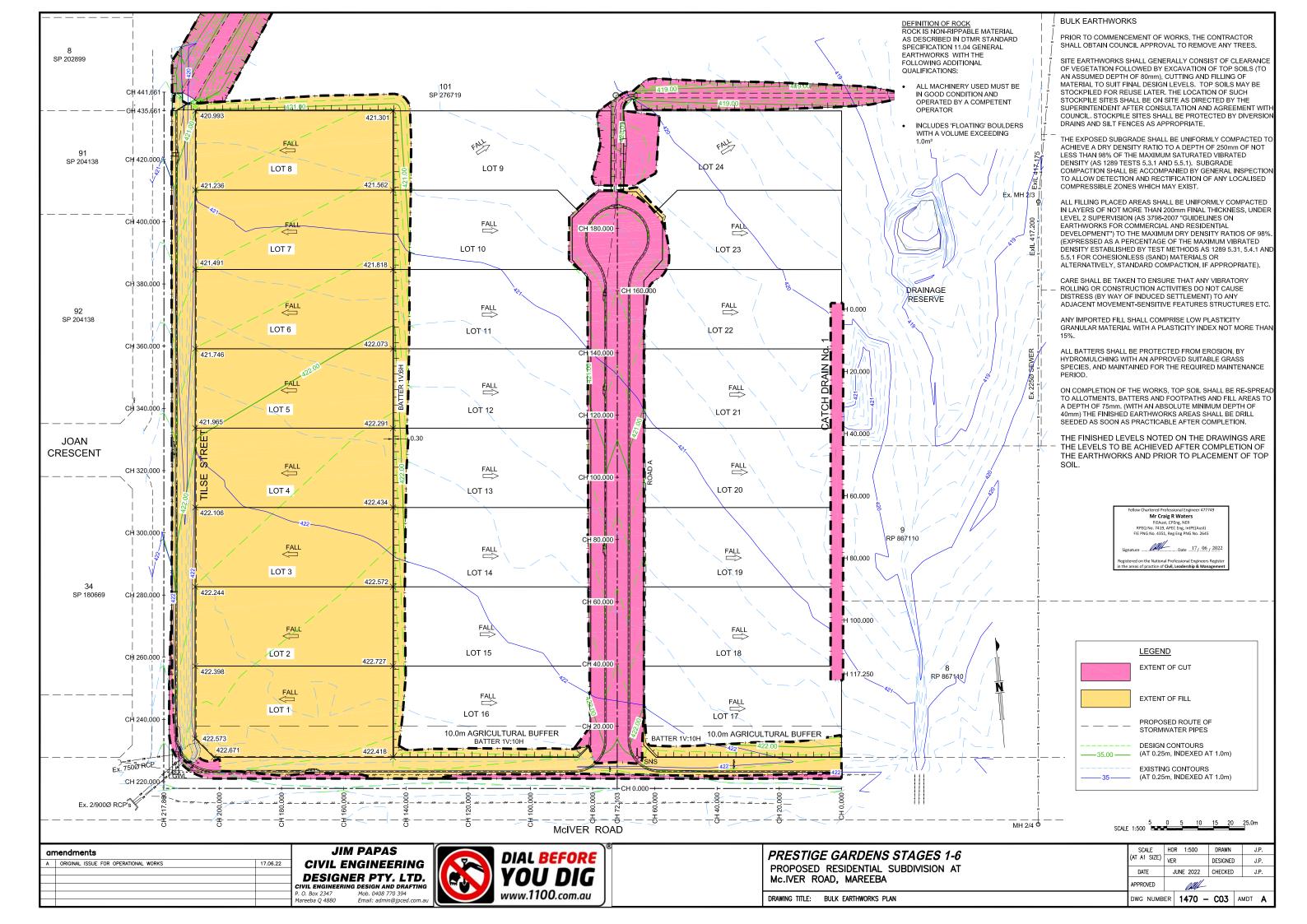


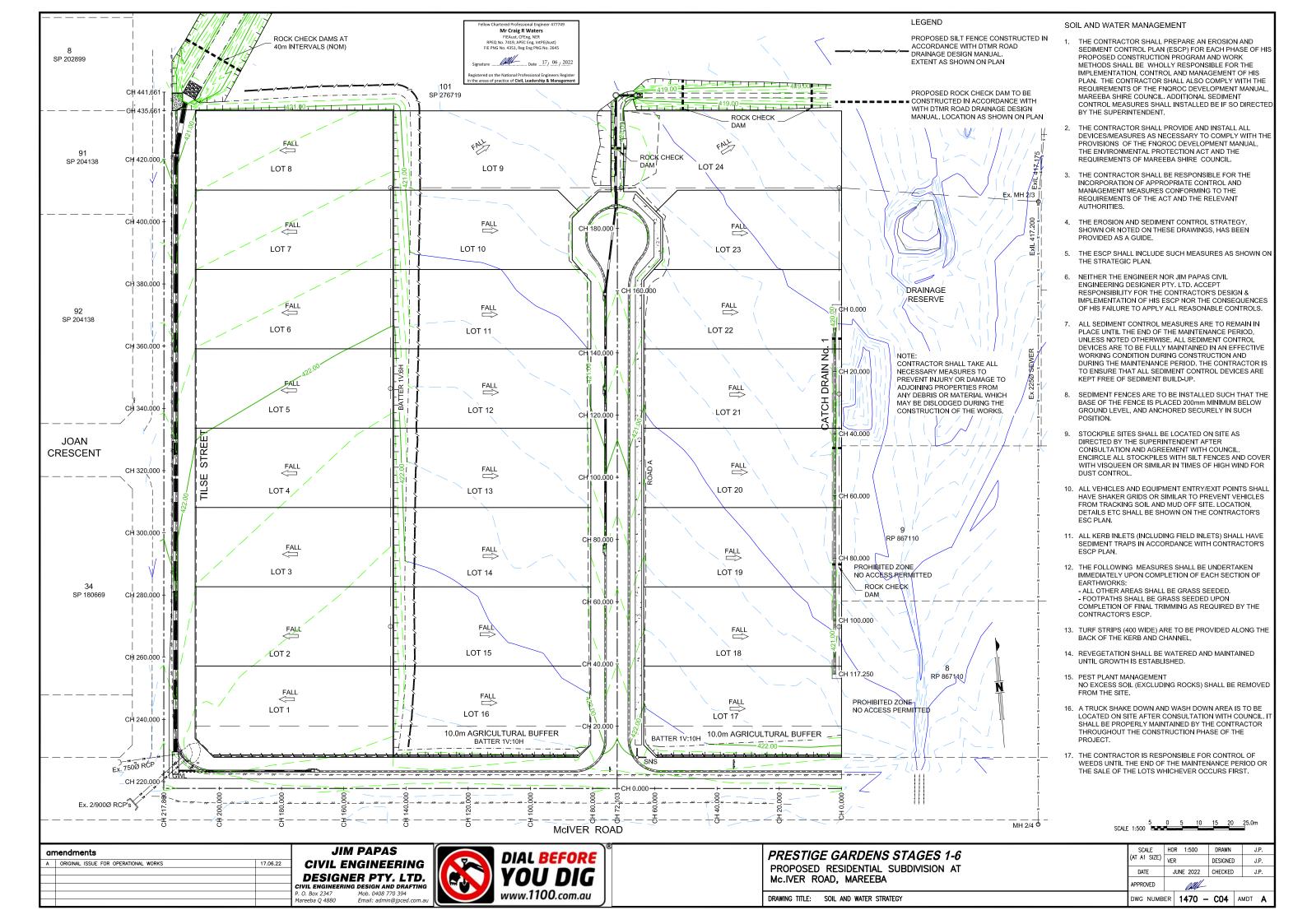
SITE PLAN

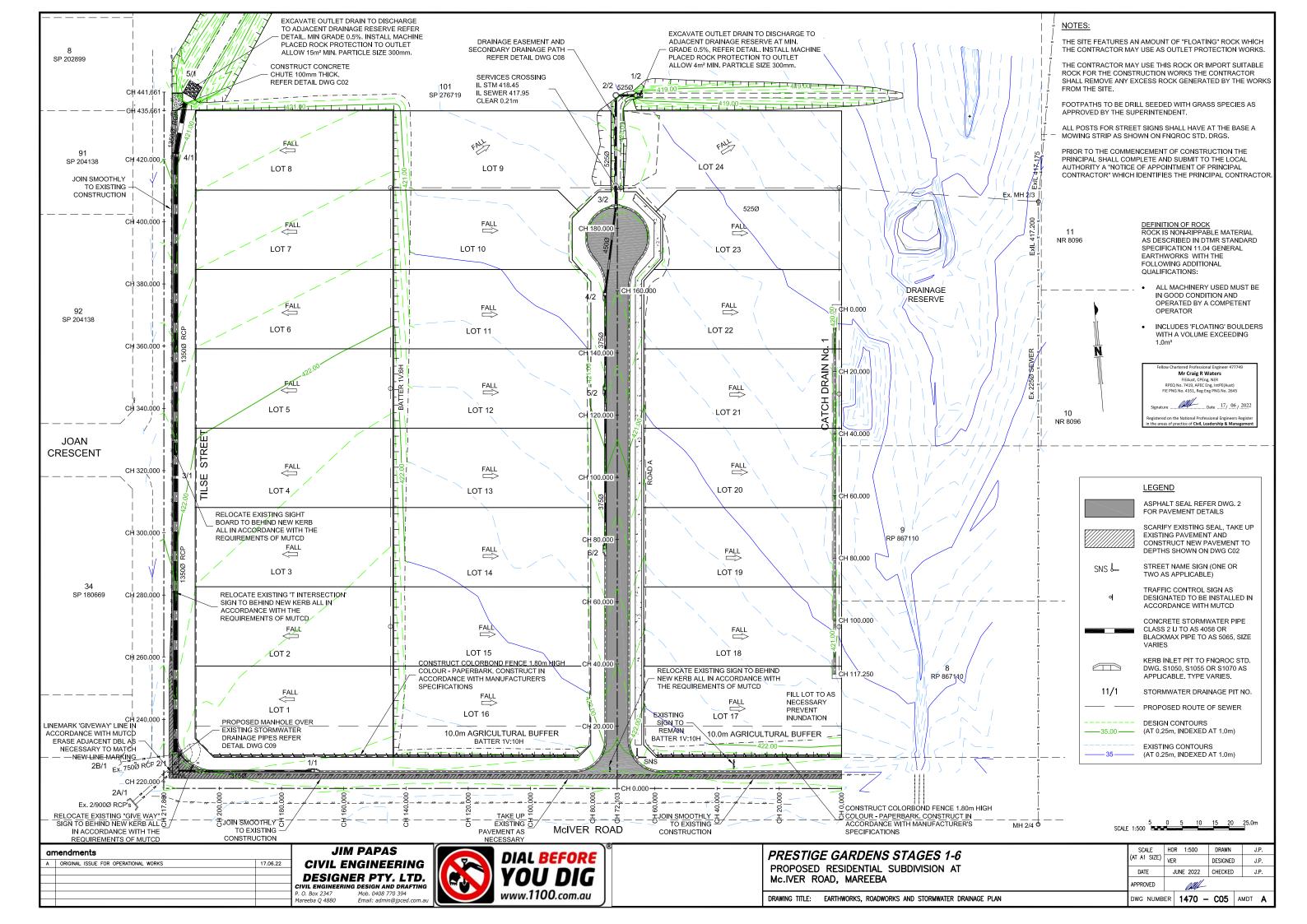


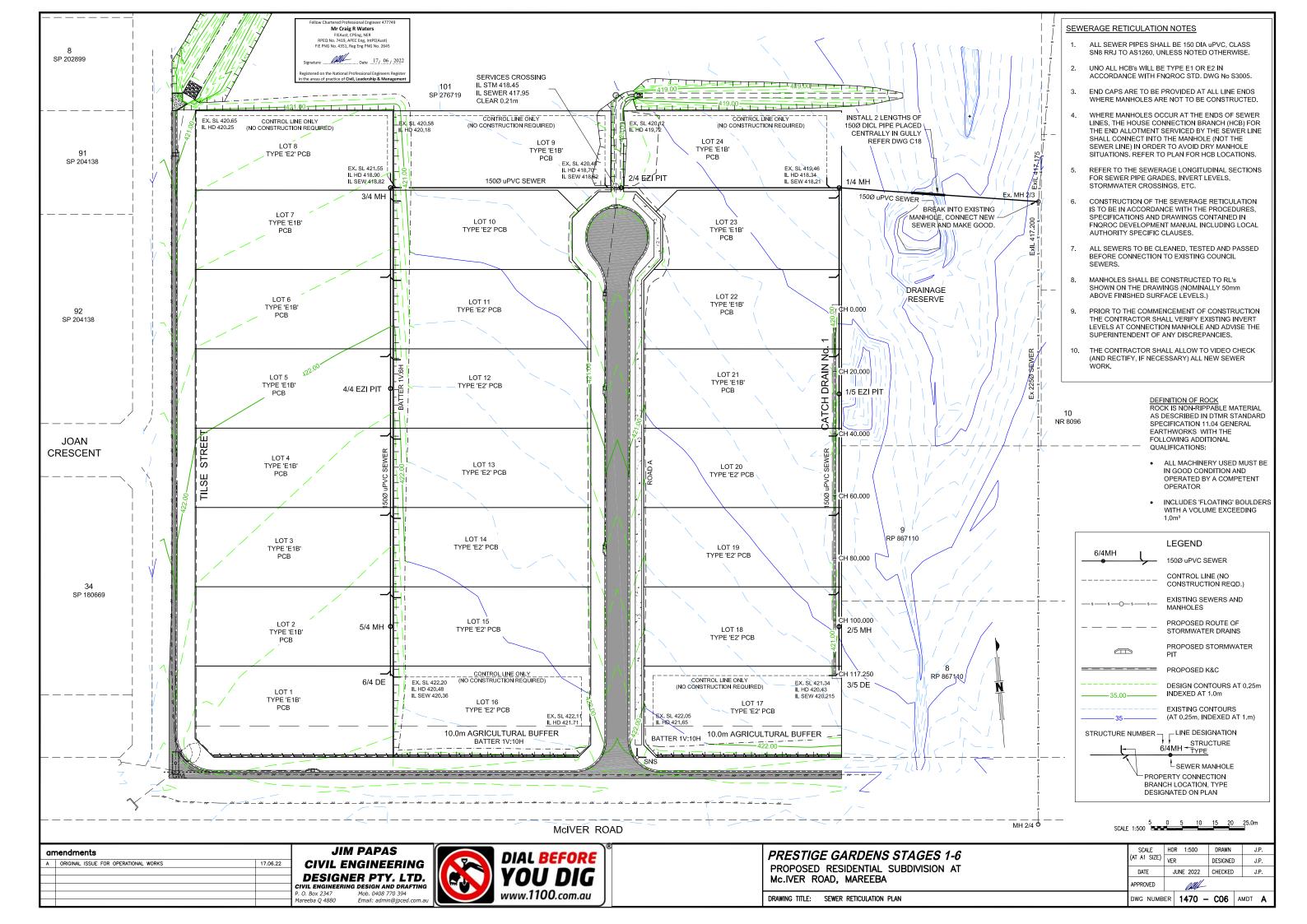


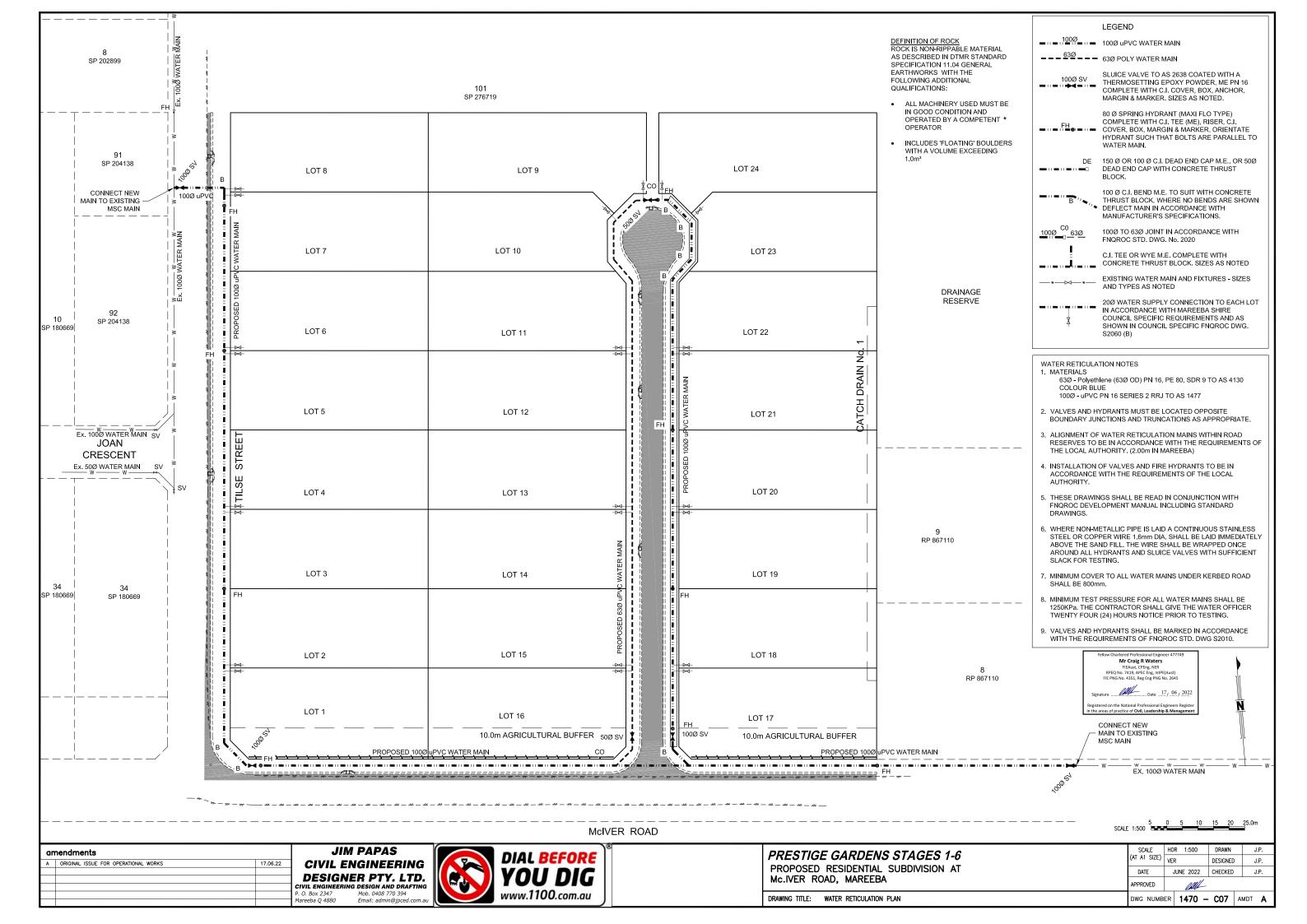


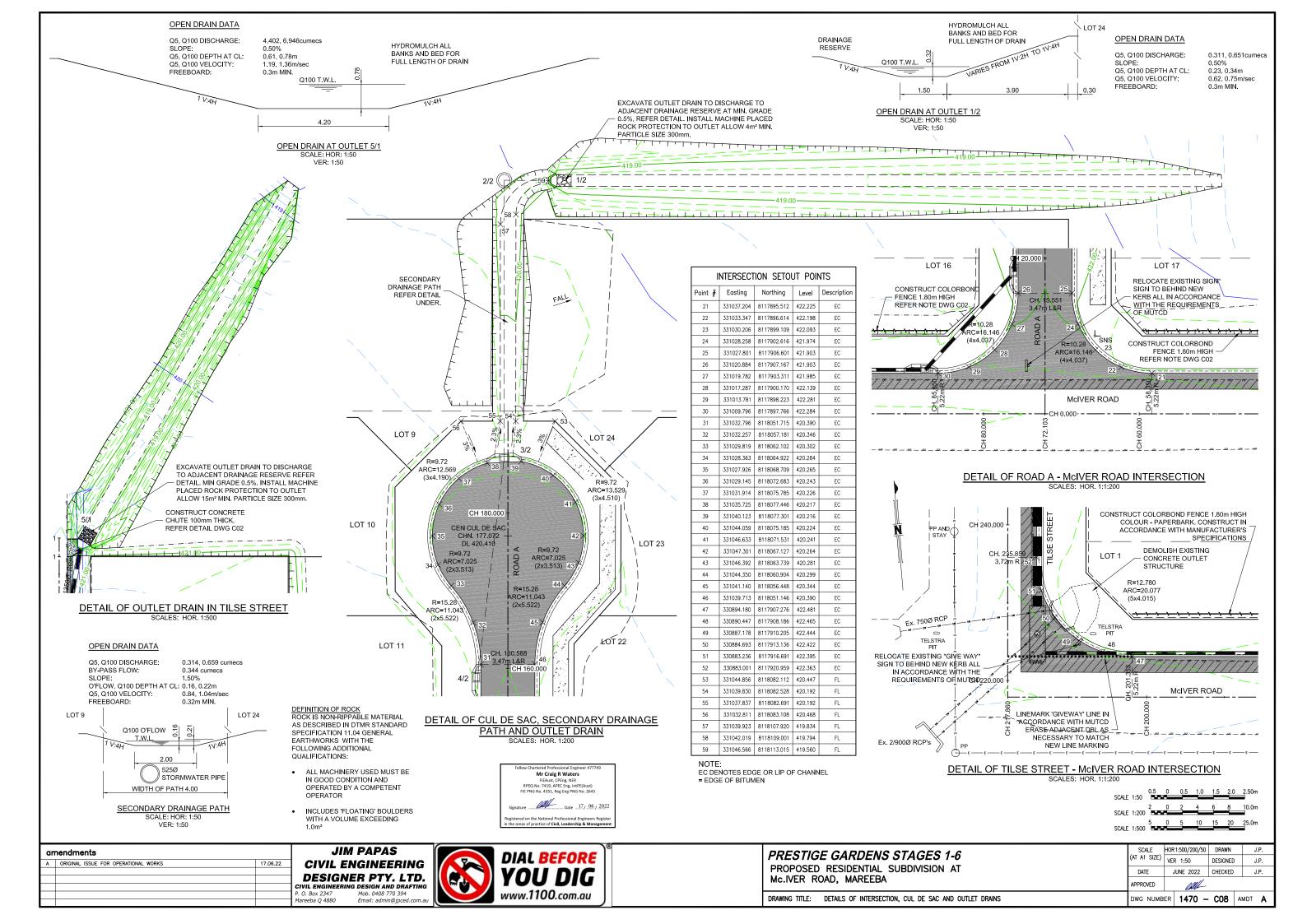


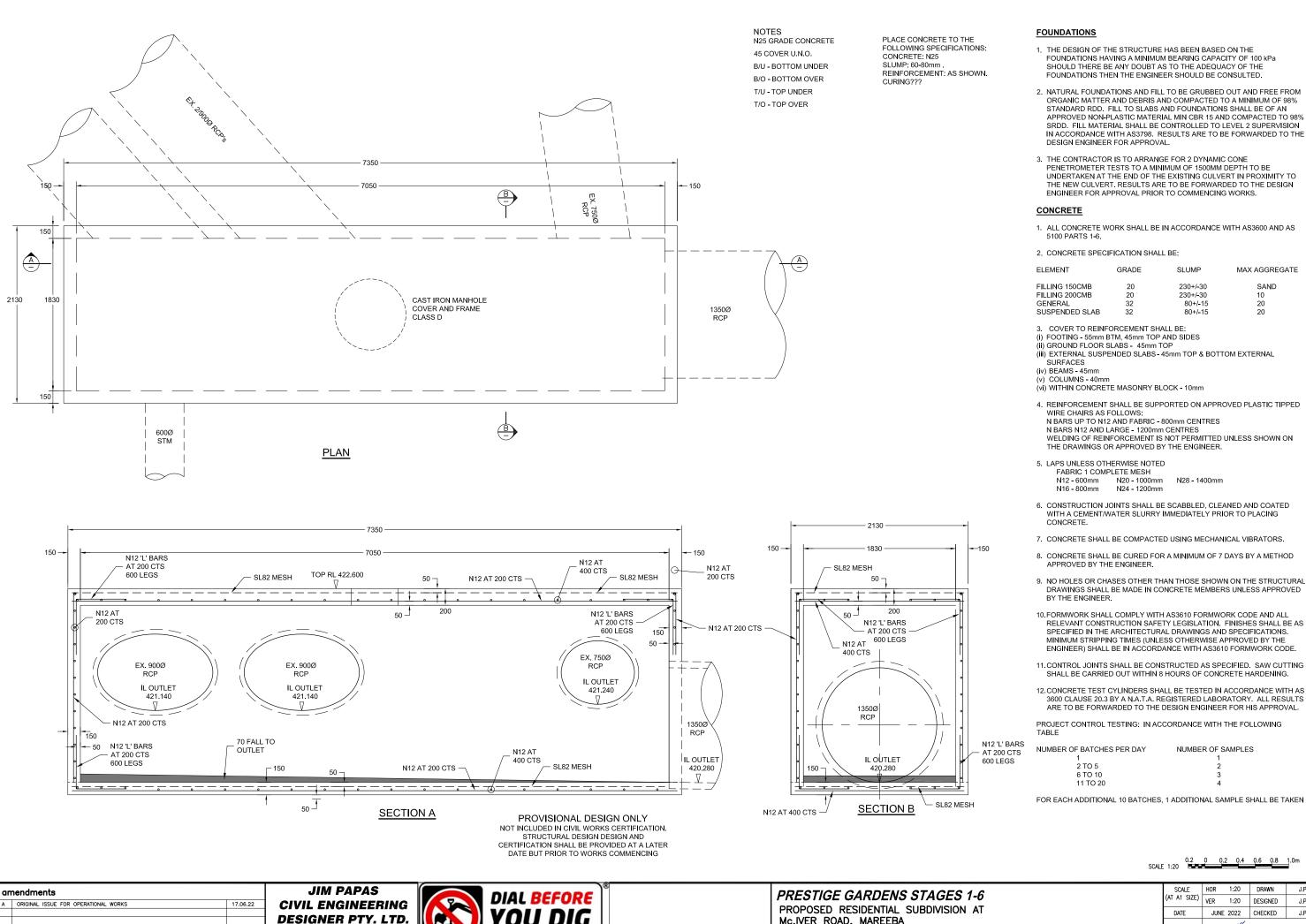












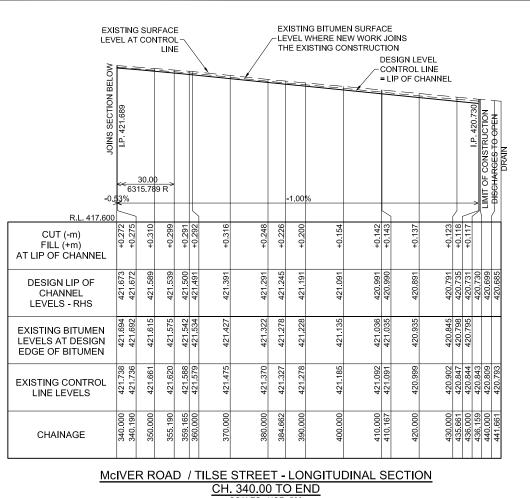
www.1100.com.au

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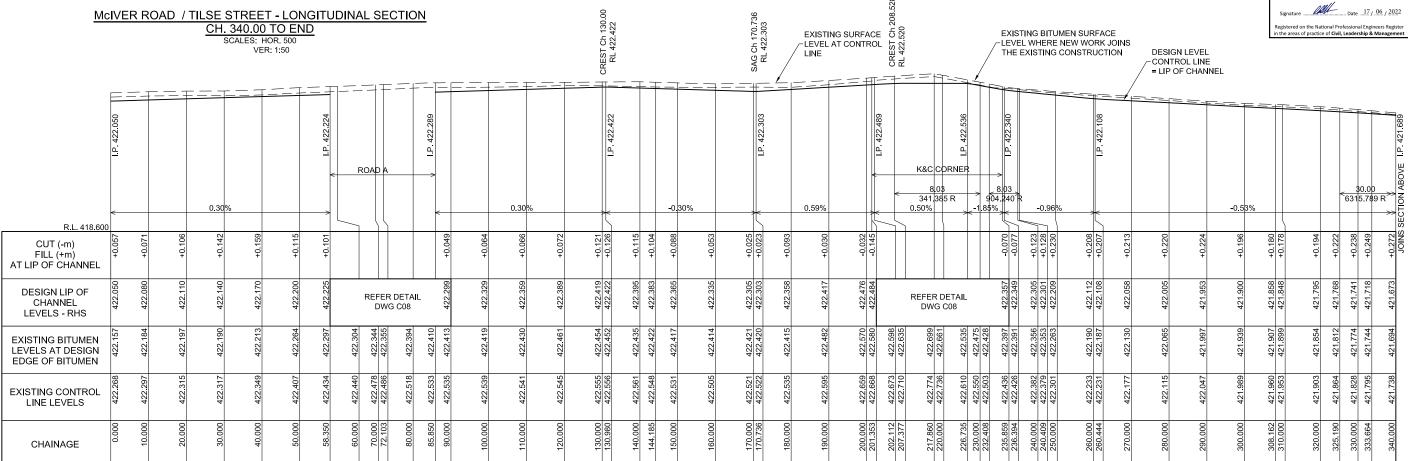
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MAX AGGREGATE

SAND



EXISTING ROAD CL										
	CHAINAGE	EASTING	NORTHING	RADII	BEARING					
L#4	0.000 72.103	331094.930 331023.070	8117885.526 8117891.436		274°42'07" STRAIGHT 274°42'07" STRAIGHT					
L#5	72.103 217.860	331023.070 330877.803	8117891.436 8117903.385		274°42'07" STRAIGHT 274°42'07" STRAIGHT					
L#6	217.860 435.661	330877.803 330895.703	8117903.385 8118120.449		4°42'52" STRAIGHT 4°42'52" STRAIGHT					
L#7	435.661 441.661	330895.703 330896.196	8118120.449 8118126.429		4°42'52" STRAIGHT 4°42'52" STRAIGHT					



McIVER ROAD / TILSE STREET - LONGITUDINAL SECTION

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			Mareeba Q 4880	Email: admin@ipced.com



PRESTIGE GARDENS STAGES 1-6	
PROPOSED RESIDENTIAL SUBDIVISION AT Mc.IVER ROAD, MAREEBA	

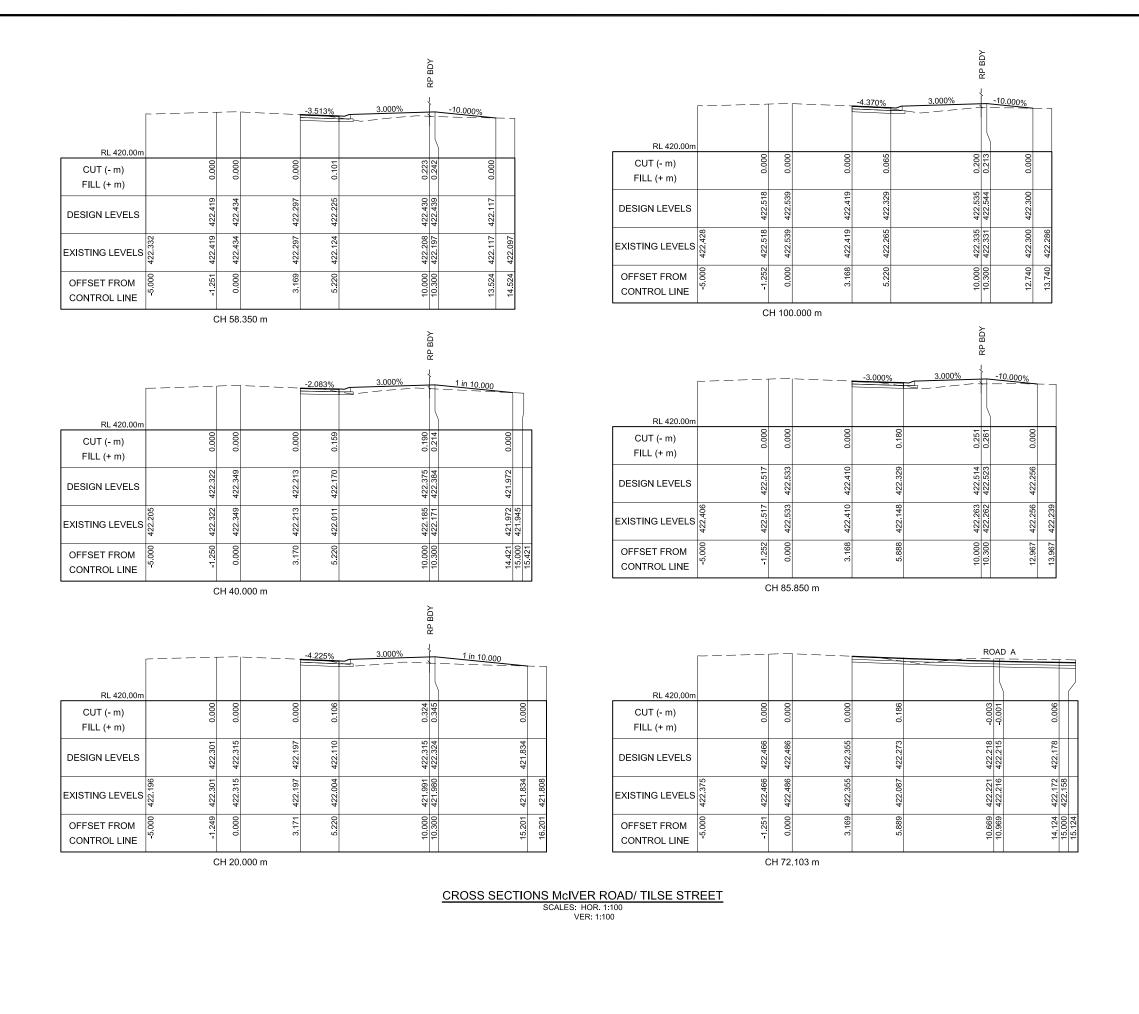
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Mr Craig R Waters
FIEAust, CPEng, NER
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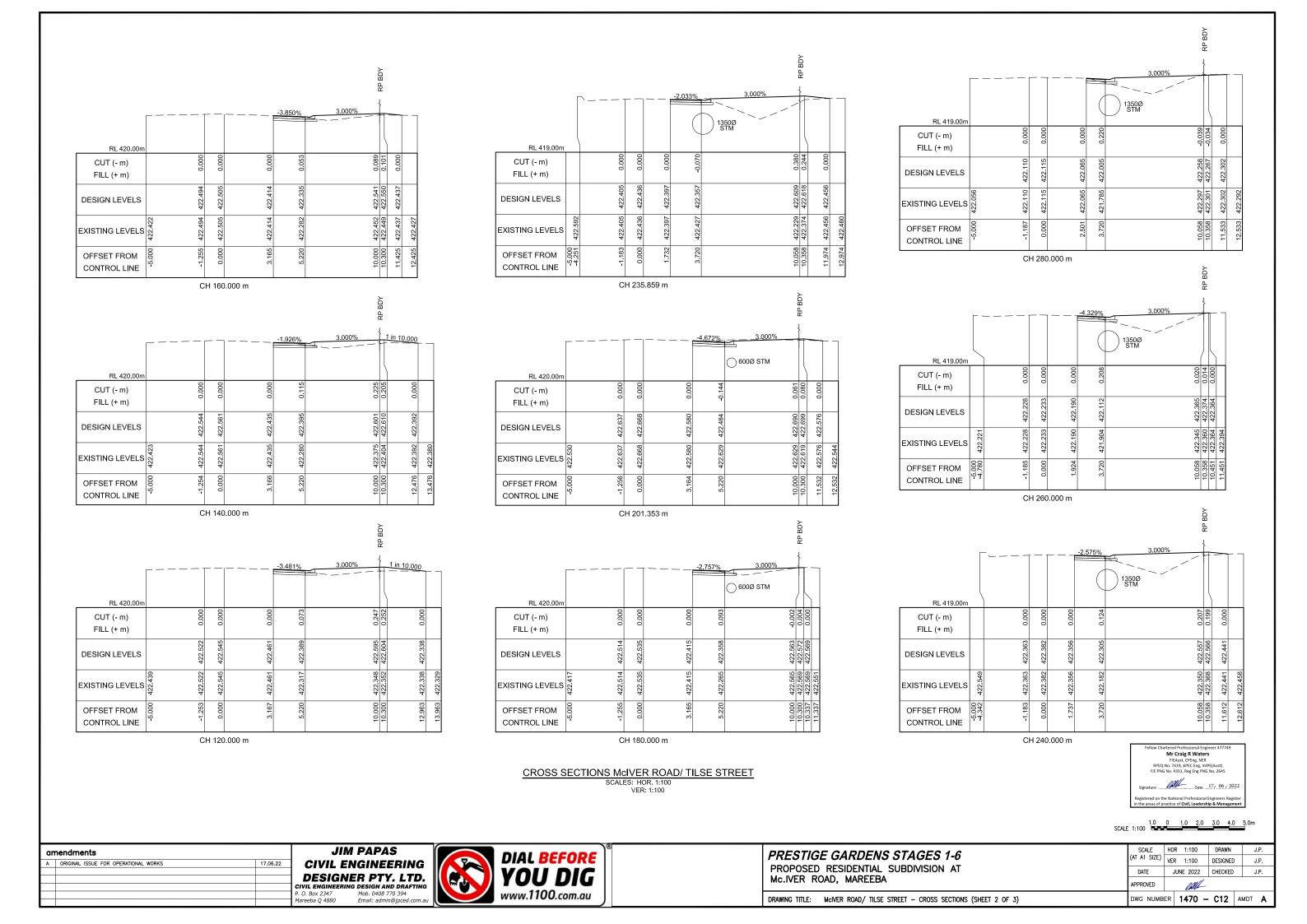


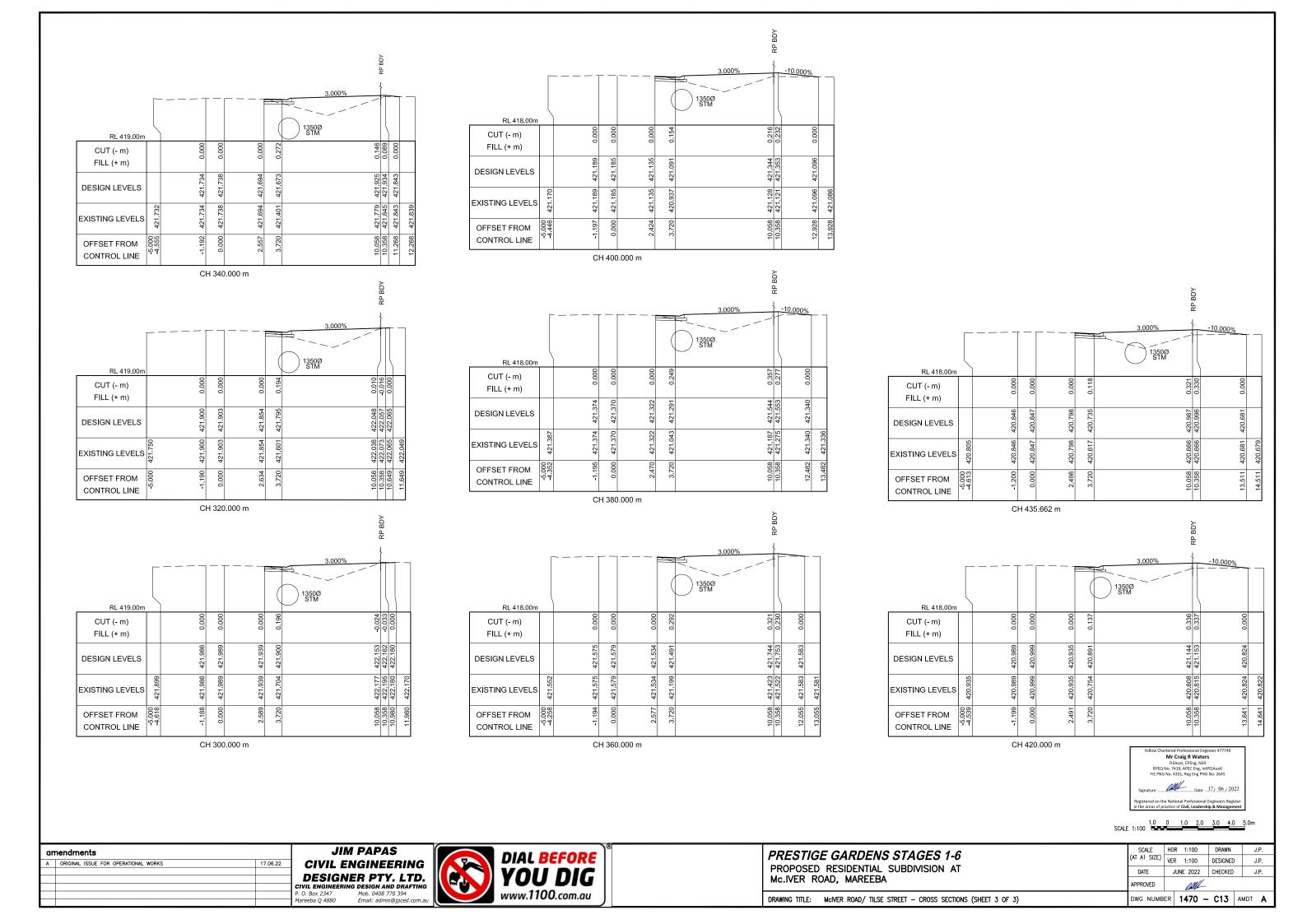
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	P. O. Box 2347 Mob. 0408 770 394 Mareeba Q 4880 Email: admin@jpced.com.au	www.1100.com.au	DRAWING TITLE: McIVER ROAD/ TILSE STREET - CROSS SECTIONS (SHEET 1 OF 3)	DWG NUMBER 1470 - C11 AMDT A

Mr Craig R Waters
FIEAust, CPEng, NER
RPEQ No. 7419, APEC Eng, IntPE(Aust)
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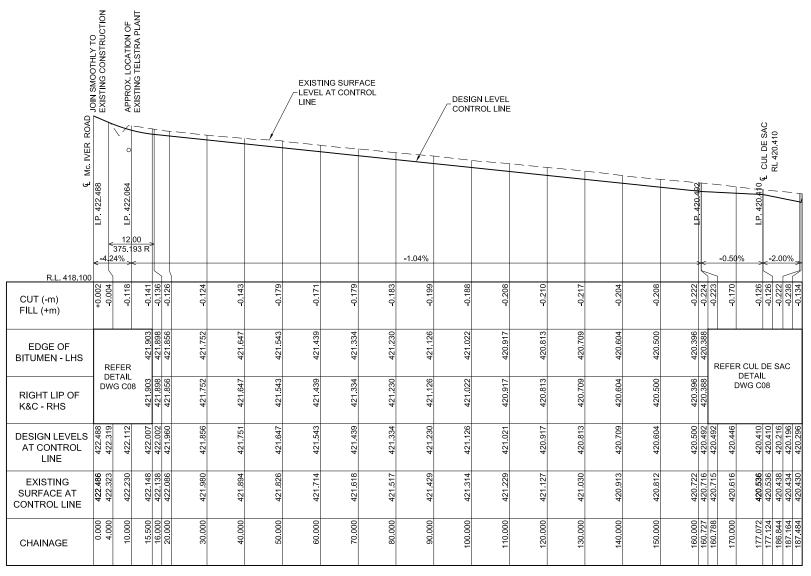
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ROAD A								
	CHAINAGE	EASTING	NORTHING	RADII	BEARING			
L#1	0.000 177.072	331023.070 331037.613	8117891.436 8118067.911		4°42'40" STRAIGHT 4°42'40" STRAIGHT			
L#2	177.072 191.822	331037.613 331038.824	8118067.911 8118082.611		4°42'40" STRAIGHT 4°42'40" STRAIGHT			



ROAD A - LONGITUDINAL SECTION
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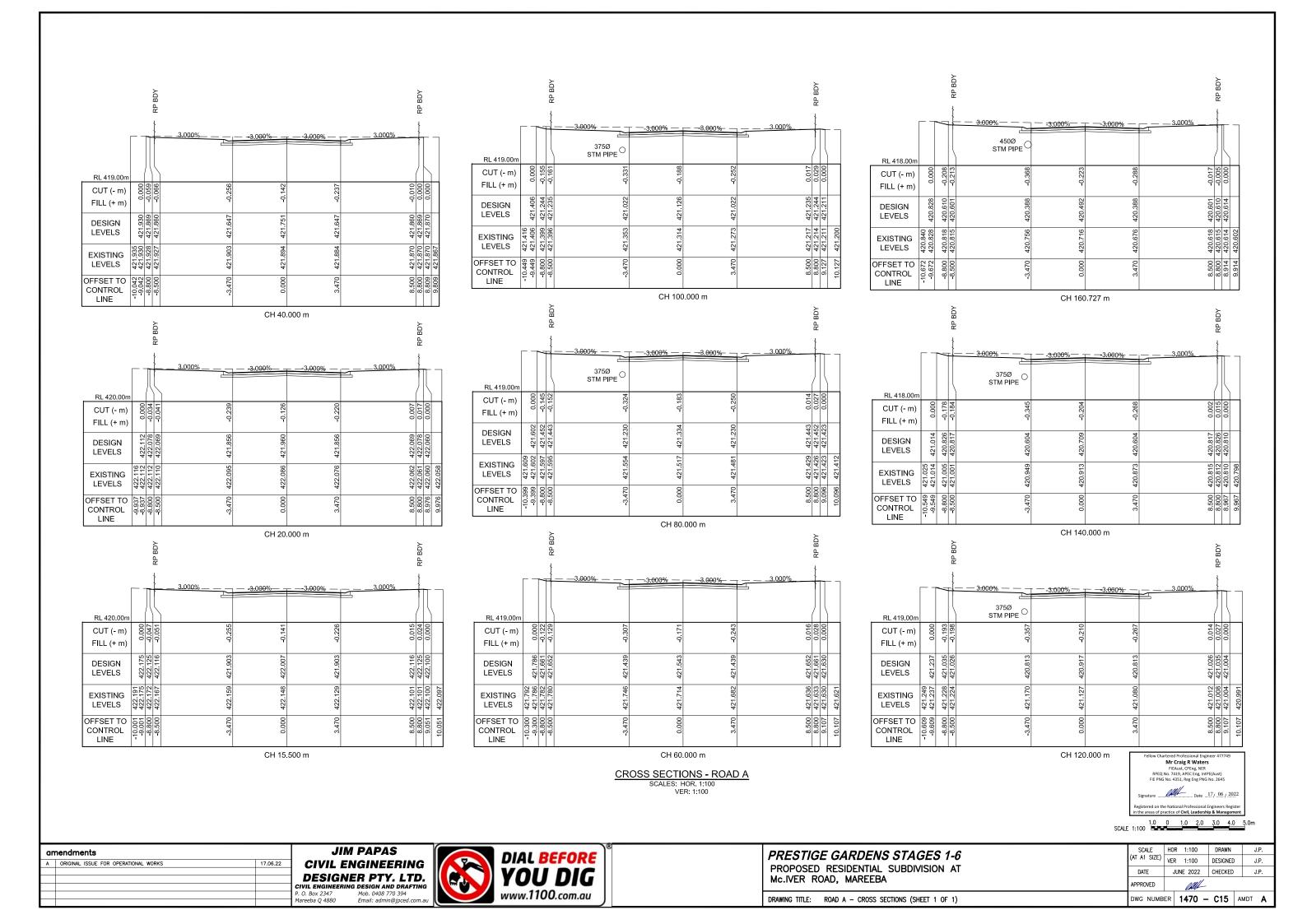
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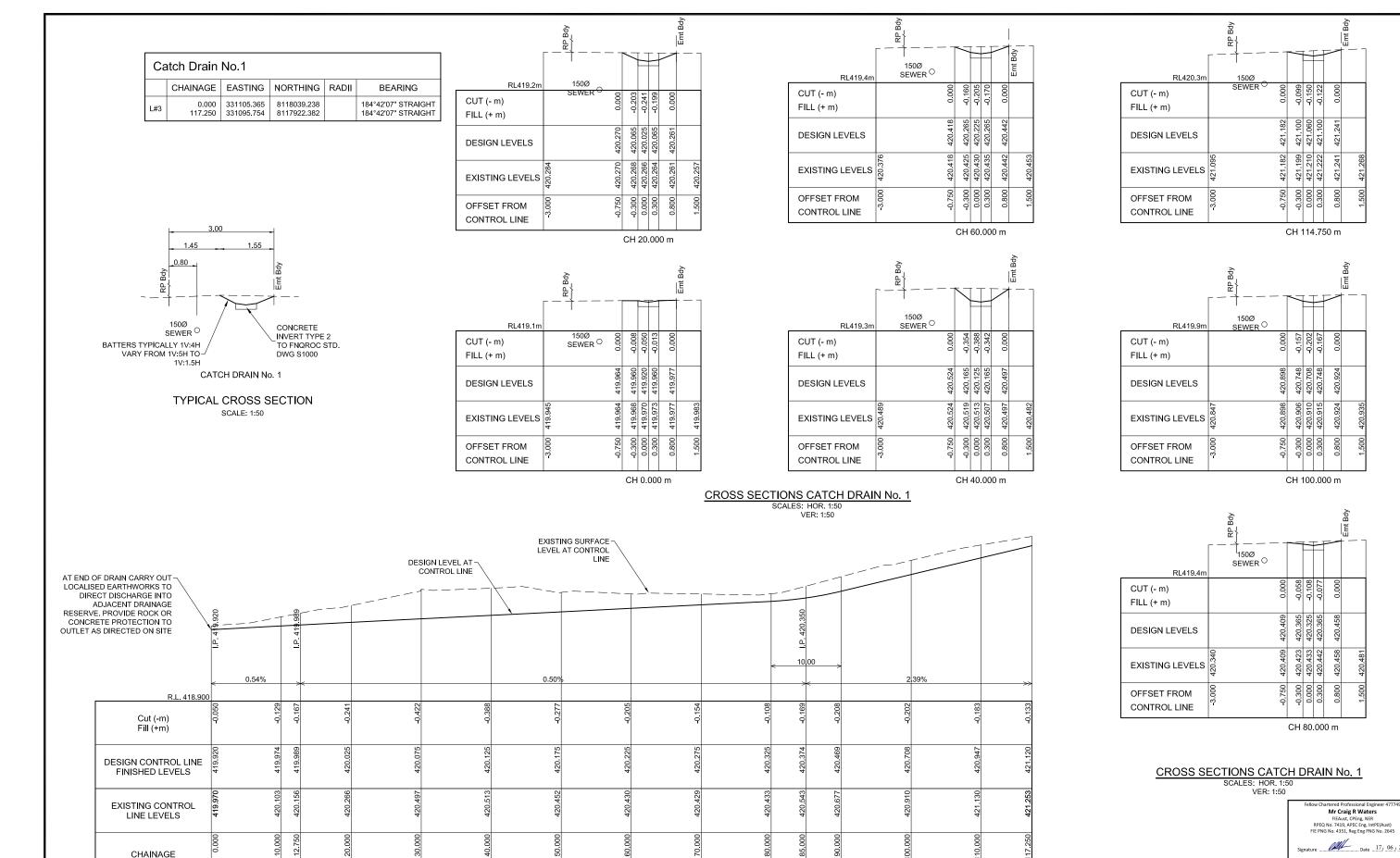


PRESTIGE GARDENS STAGES 1-6	
PROPOSED RESIDENTIAL SUBDIVISION AT	
Mc.IVER ROAD, MAREEBA	

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JIM PAPAS
CIVIL ENGINEERING
DESIGNER PTY. LTD.
CIVIL ENGINEERING DESIGN AND DRAFTING
P. O. BOX 2347
Mareeba Q 4880
Email: admin@jpced.com.au



LONGITUDINAL SECTION CATCH DRAIN No. 1

SCALES HOR 1 250

PRESTIGE GARDENS STAGES 1-6	
PROPOSED RESIDENTIAL SUBDIVISION AT	
Mc.IVER ROAD, MAREEBA	

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in the areas of practice of Civil, Leadership & Management

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:	STORMWA	TER SETOL	JT POIN	ITS
Point #	Easting	Northing	Level	Description
61	330925.979	8117905.091	422.203	1/1
62	330882.036	8117908.725	422.600	2/1
63	330867.823	8117899.420	422.658	2A/1
64	330864.758	8117912.941	422.707	2B/1
65	330890.308	8118004.526	421.409	3/1
66	330898.691	8118106.180	420.725	4/1
67	330902.763	8118122.724	418.800	5/1

:	STORMWAT	TER SETOL	JT POIN	ITS
Point #	Easting	Northing	Level	Description
68	331025.556	8117969.090	421.254	6/2
69	331029.745	8118019.917	420.724	5/2
70	331032.233	8118050.111	420.405	4/2
71	331037.934	8118077.803	420.100	3/2
72	331040.888	8118113.523	420.030	2/2
73	331046.865	8118112.991	418.750	1/2

STRUCTURE NAME
STRUCTURE DESCRIPTION

PIPE SIZEmm (Class)

PIPE SLOPE 1 in X

FULL PIPE FLOW VELOCITY (m/s)

PART FULL FLOW VELOCITY (m/s)

DATUM RL 408.0

WATER LEVEL IN

STRUCTURE

HYDRAULIC GRADE LEVEL

PIPE FLOW

(Cumecs)

PIPE CAPACITY

AT GRADE (Cumecs)

DEPTH TO INVERT

INVERT LEVEL

OF DRAIN

DESIGN SURFACE LEVEL

ROAD CHAINAGE

(OFFSET)

RUNNING

CHAINAGE LINE

PIPE GRADE %

1/2	2/2	3/2	4/2	5/2	6/2	
HEADWALL TO FNQROC STD DWG	S1085 1050Ø MANHOLE TO	FNQROC STD DWG S1065 KERB INLET IN SAG	SMALL LINTEL KERB INLET ON GRADE SMALL LINTEL	(10% Blockage) KERB INLET ON GRADE SMALL LINTEL	(10% Blockage) (10% Blockage) KERB INLET ON GRADE SMALL LINTEL	(10% Blockage)

6.142

525(2)

204.75

0.314

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450(2)

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375(2)

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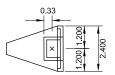
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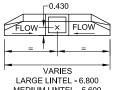
50.999

5/1	4/1		3/1		2/1		1/1	
HEADWALL TO	FNQROC STD DWG S1085 KERB INLET ON GRADE SMALL INTEL	(10% Blockage) REFER TO FNGROC STD DWG S1055	KERB INLET ON GRADE SMALL LINTEL	(10% Blockage) REFER TO FNGROC STD DWG S1055	MANHOLE TO	ENGINEERS DETAILS REFER DWG C09	KERB INLET IN SAG	SMALL LINTEL
	1							
	1350(2)	1350(2)		1350(2)		375(2)		
	0.30% 333.31 2.95	0.30% 333.33 2.95	-	1.12% 89.28 2.91	-	0.40% 250.02 0.27		
	420.172	420.396		421.126		422.240		22.095
	420.172 4		421.019	421.126	421.701	422.068 4	422.081	422 095 422 095
	4.354	4.354		4.307		0.031		
	3.051	3.051		5.895		0.116		
	2.000		2.232	2.206	2.320		1.313	
	418.851		419.177	419.203	420.280	420.814	422.303 420.990	
420.800	420.725		421.409		422.600		422.303	
0.000	17.038	101.999	119.037	96.156	215.193	44.093	259.286	

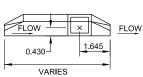
			PIT S	SCHEDUL	E				
PIT		INTER	NAL	INLE ⁻	Г	OUT	LET		PIT
No.	TYPE	WIDTH	LEN.	DIA.(CL)	INV R.L.	DIA.(CL)	INV R.L.	F.S.L.	DEPTH
6/2	KERB INLET ON GRADE SMALL LINTEL	835	930			375(2)	419.941	421.254	1.31
5/2	KERB INLET ON GRADE SMALL LINTEL	835	930	375(2)	419.410	375(2)	419.390	420.724	1.33
4/2	KERB INLET ON GRADE SMALL LINTEL	835	930	375(2)	419.100	450(2)	419.080	420.405	1.32
3/2	KERB INLET IN SAG SMALL LINTEL	835	930	450(2)	418.957	525(2)	418.937	420.100	1.16
2/2	1050Ø MANHOLE IN ACCORDANCE WITH FNQROC STD. DWG. S1065	105	0Ø	525(2)	418.794	525(2)	418.774	420.030	1.26
1/1	KERB INLET IN SAG SMALL LINTEL	835	930			37(2)	420.990	422.203	1.31
2/1	RECTANG. MANHOLE TO ENGINEERS DETAILS REFER DWG C09	AS SHO	NWC	375(2) Ex. 2/900(2) Ex. 750(2)	420.814 421.140 421.240	1350(2)	420.280	422.600	2.32
3/1	KERB INLET ON GRADE SMALL LINTEL	1830	930	1350(2)	419.203	1350(2)	419.177	421.409	2.23
4/1	KERB INLET ON GRADE SMALL LINTEL	1830	930	1350(2)	418.871	1350(2)	418.851	420.725	1.87



FIELD INLET TYPE A



LARGE LINTEL - 6.800
MEDIUM LINTEL - 5.600
SMALL LINTEL - 4.400
KERB INLET PIT IN SAG



LARGE LINTEL - 6.800
MEDIUM LINTEL - 5.600
SMALL LINTEL - 4.400
KERB INLET PIT ON GRADE

STORMWATER DRAINAGE
SET OUT DETAILS

NOTES:

SET OUT POINT IS CENTRE OF GRATE

WIDTH IS DIMENSION PERPENDICULAR TO PRECAST BACKSTONE (i.e. TYPICALLY PERPENDICULAR TO THE LINE OF THE KERB AND CHANNE!)

LENGTH IS DIMENSION PARALLEL TO THE LINE OF THE KERB AND CHANNEL.

INSTALL 2.0m SUB SOIL DRAIN AS REQUIRED BY FNQROC. DWGS.

PIPE LENGTHS SHOWN ARE MEASURED FROM CENTRE OF GRATE TO CENTRE OF GRATE

ALL STORMWATER DRAIN PIPES SHALL BE
"BLACKMAX" PIPES TO AS/NZS 5065
POLYETHYLENE (PE) AND POLYPROPYLENE
(PP) PIPES AND FITTINGS FOR DRAINAGE AND
SEWERAGE APPLICATIONS CLASS SN8
OR REINFORCED CONCRETE STORMWATER
PIPES CLASS 2, FJ TO AS 4058

FSL NOTED IN PIT SCHEDULE IS THE LIP OF THE KERB AND CHANNEL PERPENDICULAR TO THE SETOUT POINT.

Mareeba Q 4880

LINTEL LENGTHS NOTED INCLUDE TRANSITION LENGTHS.



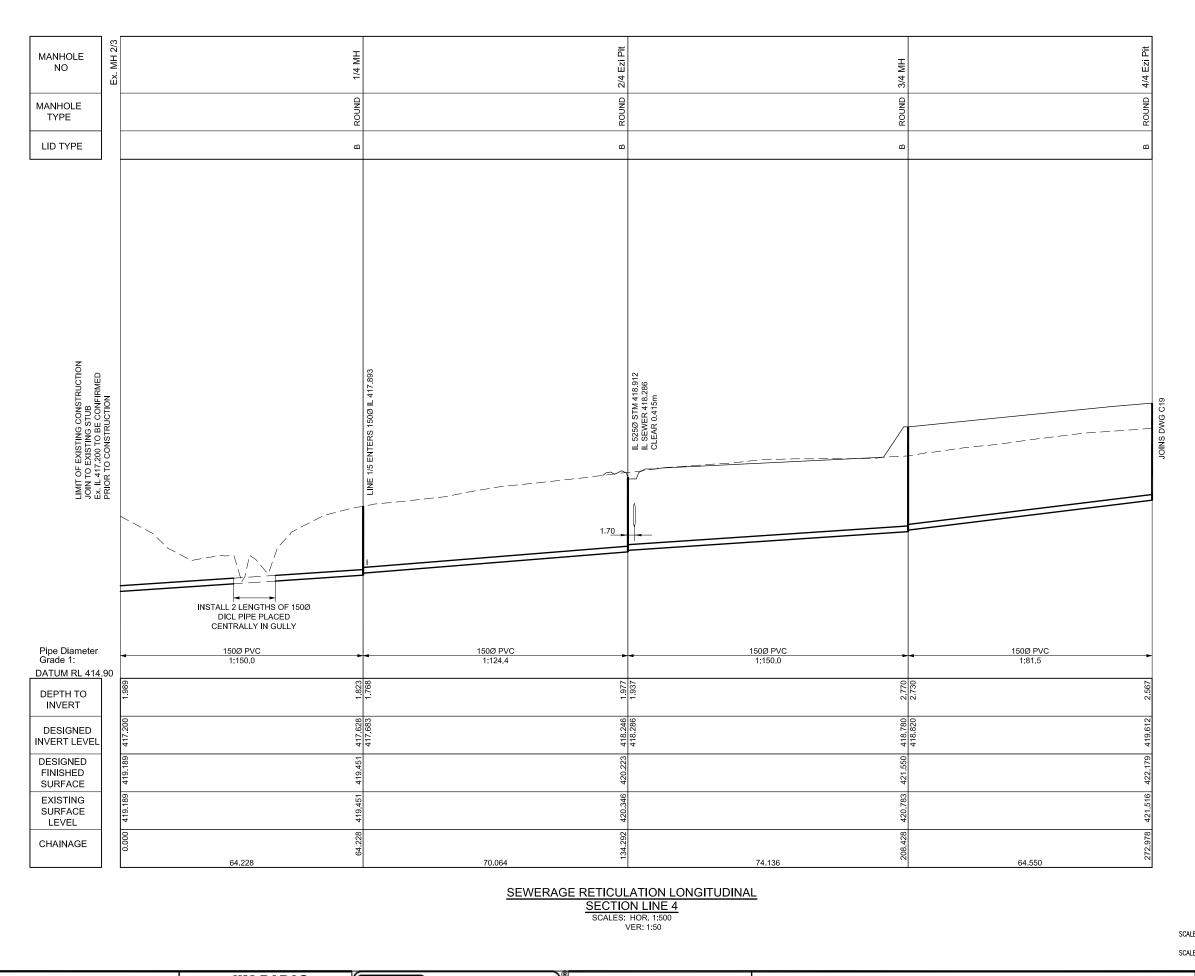
STORMWATER DRAINAGE LONGITUDINAL SECTION SCALES: HOR. 1:1000 VER: 1:100

endments		JIM PAPAS
ORIGINAL ISSUE FOR OPERATIONAL WORKS	17.06.22	CIVIL ENGINEERIN
		DESIGNER PTY. LT
		CIVIL ENGINEERING DESIGN AND DRAF



PRESTIGE GARDENS STAGES 1-6	0.07	HOR 1:1000	DRAWN	J.F	۶.
	(AT A1 SIZE)	VER 1:100	DESIGNED	J.F	٥.
PROPOSED RESIDENTIAL SUBDIVISION AT	DATE	JUNE 2022	CHECKED	J.F	۶.
Mc.IVER ROAD, MAREEBA	APPROVED	all			
DRAWING TITLE: STORMWATER DRAINAGE LONGITUDINAL SECTIONS, PIT SCHEDULE, SET OUT AND NOTES	DWG NUMBE	ER 1470 -	- C17	AMDT	Α

10 0 10 20 30 40 50.0m SCALE 1:1000



amendments

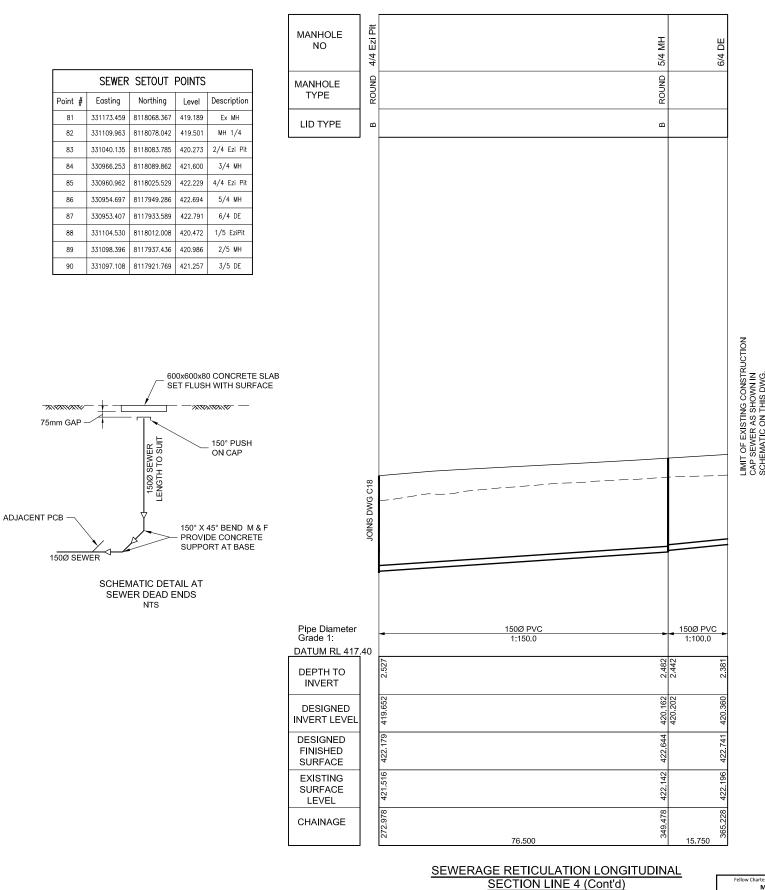
A ORIGINAL ISSUE FOR OPERATIONAL WORKS

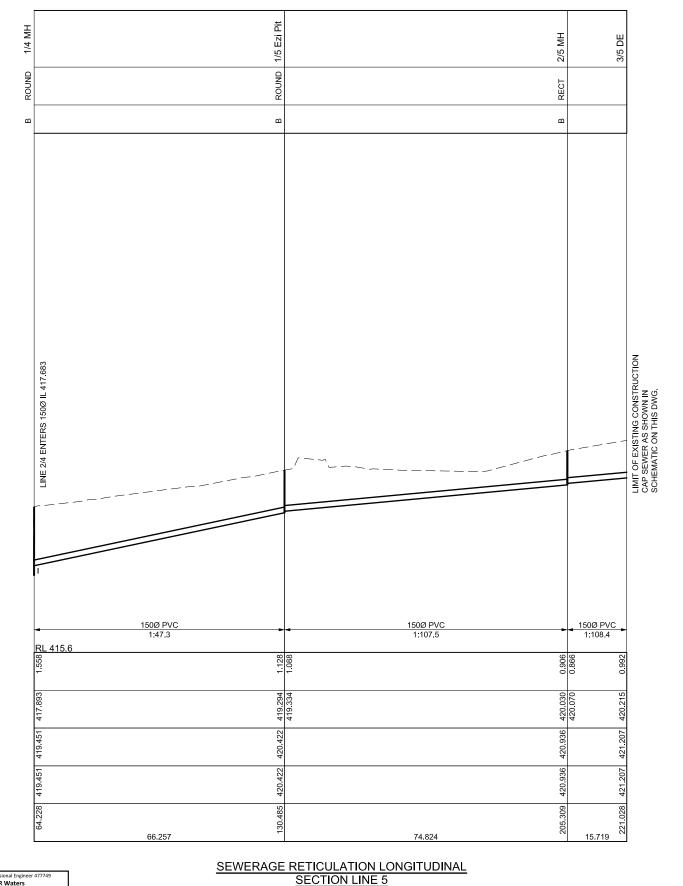
JIM PAPAS
CIVIL ENGINEERING
DESIGNER PTY. LTD.
CIVIL ENGINEERING DESIGNER PTY. LTD.
CIVIL ENGINEERING DESIGNAND DRAFTING
P. O. Box 2347
Mareeba Q 4880

Mob. 04887 70 394
Mob. 2480

Mob. 2

Mr Craig R Waters





VER: 1:50

Mr Craig R Waters FIEAust, CPEng, NER RPEQ.No. 7419, APEC Eng, IntPE(Aust) FIE PNG No. 4351, Reg Eng PNG No. 2645

SCALES: HOR. 1:500 VER: 1:50

PRESTIGE GARDENS STAGES 1-6 PROPOSED RESIDENTIAL SUBDIVISION AT

DRAWING TITLE: SEWERAGE RETICULATION LONGITUDINAL SECTIONS (SHEET 2 OF 2) AND SET OUT

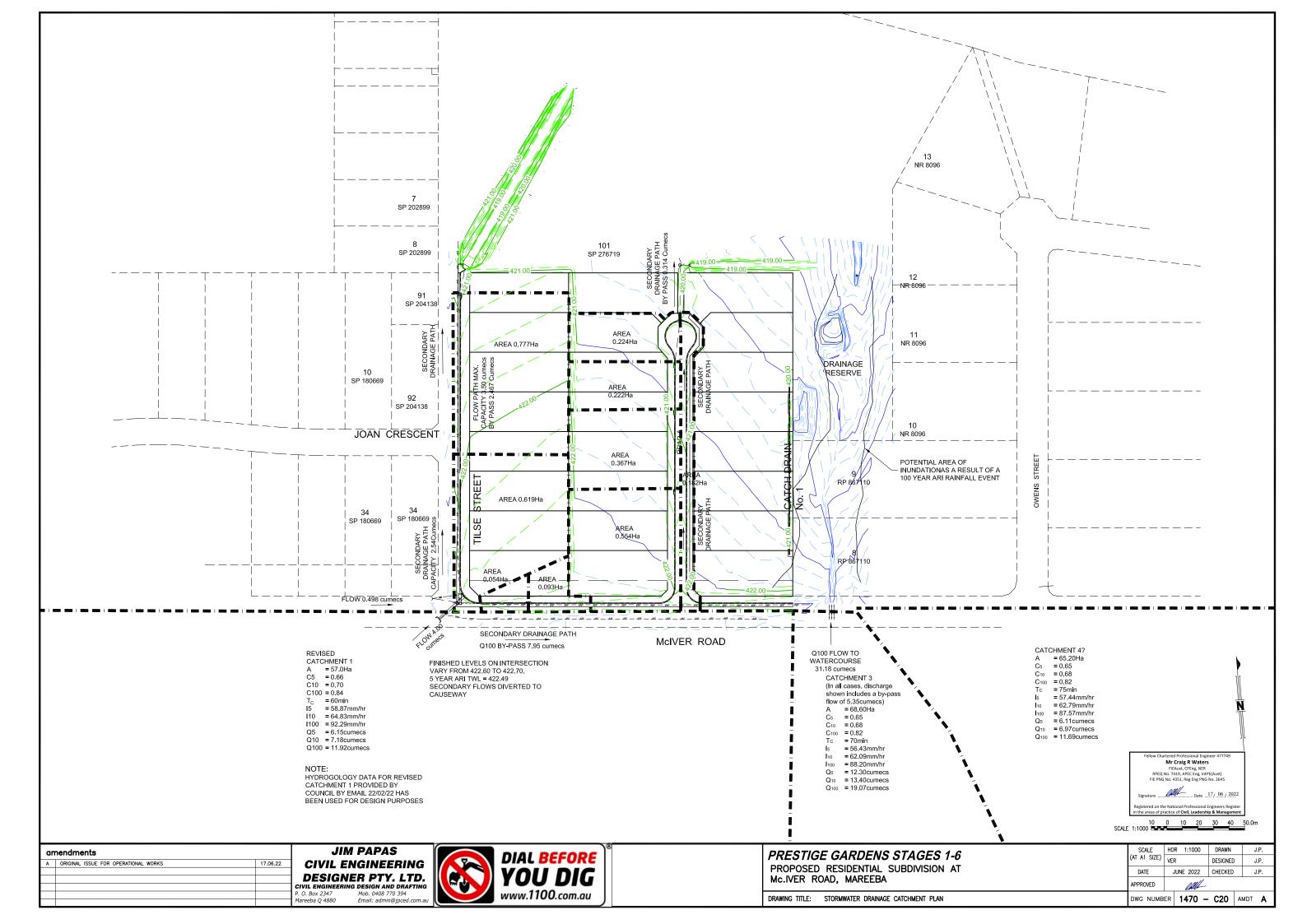
Mc.IVER ROAD, MAREEBA

DWG NUMB	ER		1470 -	C19	Ai	MDT	A
APPROVED			east-				
DATE	,	JUN	IE 2022	CHECKED		J	.Р.
(AT A1 SIZE)	VEF	₹	1:50	DESIGNED)	J	.Р.
SCALE	НО	R	1:500	DRAWN		J	.Р.

an	nendments	
Α	ORIGINAL ISSUE FOR OPERATIONAL WORKS	17.06.22

JIM PAPAS **CIVIL ENGINEERING** DESIGNER PTY. LTD. CIVIL ENGINEERING DESIGN AND DRAFTING
P. O. Box 2347 Mob. 0408 770 394
Mareeba Q 4880 Email: admin@jpced.com.au





	LO	CATION				SU	B-CAT	CHMENT	RUNOF	FF					INLE	T DESI	GN										D	RAIN DE	ESIGN						Н	IEADLOS:	SES						PAF	RT FULL							
				t	tc I		Α			Q													tc	- 1		Qt	Qm	Qs	Qo	L	S		V t		V2/2	2g Ku	hu	kl	hl	kw	hw :	Sf	hf								
GN A.R.	STRUCTURE NO.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	SUB-CATCHMENT TIME	OF CONCENTRATION RAINFALL	INTENSITY COEFFICIENT OF	SUB-CATCHMENT	EQUIVALENT AREA	SUM OF CONTRIBUTING EQUIVALENT AREAS	SUB-CATCHMENT DISCHARGE	FLOW PAST PREVIOUS GULLIES	FLOW IN K&C (INCLIDING BYPASS)	ā 🚵		FLOW DEPTH AT INVERT	GUTTER FLOW VELOCITY	dg × Vg	INLET NUMBER	INLET TYPE	FLOW INTO INLET	WIDTH OF FLOW D/S OF INLET	BYPASS FLOW	CRITICAL TIME OF CONCENTRATION	RAINFALL INTENSITY	TOTAL CONTRIBUTING EQUIVALENT AREA	MAJOR TOTAL FLOW	MAJOR SURFACE FLOW CAPACITY	MAJOR SURFACE FLOW	FLOW IN PIPE	REACH LENGTH	PIPE GRADE	/ BOX SIONS VELOCITY FULL	(PIPE GRADE VELOCITY) TIME OF FLOW IN REACH	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS	VELOCITY HEAD	U/S HEADLOSS COEFFICIENT	U/S PIPE STRUCTURE HEADLOSS	LATERAL HEADLOSS COEFFICIENT	LATERAL PIPE STRUCTURE HEADLOSS	ICIENT	z	FRICTION SLOPE	PIPE FRICTION HEADLOSS DEPTH	VELOCITY	OBVERT LEVELS U/S RL D/S RL	DRAIN SECTION H.G.L U/S RL		W.S.E.	SURFACE OR K&C	INVERT LEVEL	FREEBUARU CTDIICTIIDE NO
Years				m	nin mr	m/h	Ha	Ha	Ha	cumed	cscumec	scume	cs	m	m	m/sec	m/sec			cumec	s m	cumecs		1 '			1		scumec		%	mm m/			m		m	m	m		m	%	m m	n m/sed	m	m	m	m	r	m	m
5 100	/2 t	6/2 to 5/2	6/2	15. 15.	.00 11 .00 18	4 0.67 38 0.85	0.554 0.554	0.371 0.471	0.371 0.471	0.117 0.246	0.000	0.000	1.04	2.464	0.094	0.94	0.09	6/2	8	0.084	1.381	0.034 5/2	15.00 15.00	114 188	0.371 0.471	0.246	2.705	0.162 (Pipe	0.084 flow= Gr	50.999 ate flow)	1.02 3	375(2) 0.° (1.i	73 0.85 62)	G Qg 0.084 Qo 0.084 Do 375 CHRT 32: Vo2/2gDo 0.07 H/Do 0.48 Kg side flow 7.04 end flow 5.33	0.027	7.04	0.191			7.04 0.	191 0	0.21 0	0.107		420.322 419.799	420.504 420.397	420.69	5 420.69	95 421.2	254 0.5	i59 6/
5 100		5/2 to 4/2	6/2;5/2	15. 15.	.00 11 .00 18	14 0.67 38 0.85	0.367 0.367	0.246 0.312	0.246 0.312	0.078 0.163	0.034	0.000	1.04	2.410	0.092	0.93	0.09	5/2	8	0.081	1.319	0.031 4/2	15.85 15.85	111 184	0.617 0.783	0.400	2.705 (Pip	0.240 flow=	0.160 Sum ups	30.296 tr atten	0.77 flows)	375(2) 1. (1.	41 0.36 41)	G Qg 0.079 Qo 0.160 Do 375 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.49 K 1.50 S/Do 2.62 cor -0.03 Ku 1.47 Kw 1.47		1 1.47	0.149			1.47 0.	149 0).77 C	0.233		419.779 419.547	420.248 420.015	420.39	7 420.39	97 420.7	723 0.3	5/
5 100	/2 to	4/2 to 3/2	6/2;5/2;4/	/2 15. 15.	.00 11 .00 18	14 0.67 38 0.85	0.222 0.222	0.149 0.189	0.149 0.189	0.047 0.099	0.031	0.000	1.04	2.053	0.082	0.85	0.07	4/2	8	0.060	0.977	0.018 3/2	16.21 16.21	110 182	0.766 0.972	0.491			0.217 Sum ups			150(2) 1 (1	32 32) 0.36	G Qg 0.058 Qo 0.217 Do 450 CHART 33 Angle 7 S/Do 2.5 Du/Do 0.83 Qg/Qo 0.27 K 0.67 S/Do 1.90 cor 0.14 Ku 0.81 Kw 0.81	0.089	9 0.81	0.072			0.81 0.	072 0	0.53 0	0.151		419.603 419.451	419.943 419.792	420.01	5 420.0	15 420.4	405 0.3	90 4/
5 3	/2 te	3/2 to 2/2	6/2;5/2;4/2 3/2	'2; 15. 15.	.00 11 .00 18	38 0.67 0.85	0.224	0.150 0.155		0.086 0.180	0.018	0.000	0.90	1.478	0.064	0.00	0.00	3/2	20\$0.10	0.104		0.000	16.57 16.57	109 180	1.038 1.317	0.659	0.500 (Pip	0.344 flow=	0.314 Sum ups	35.842 tr atten	0.49 flows)	525(2) 1. (1.	40 0.43 40)	G Q 0.099 Qo 0.314 Do 525 CHART 33 Angle 7 S/Do 2.5 Du/Do 0.86 Qg/Qo 0.32 K 0.91 S/Do 1.53 cor 0.33 Ku 1.24 Kw 1.24	0.100	1.24	0.124			1.24 0.	124 0	0.49 0).175		419.508 419.333	419.668 419.493	419.79	2 419.79	92 420.1	100 0.3	508 3/
5 100	/2 te	2/2 to 1/2	6/2;5/2;4/2 3/2	2;														2/2					17.00 17.00	108 178	1.038 1.317	0.651	(Pip	flow=	0.314 Sum ups		0.49 flows)		40 0.07 40)	Qo 0.314 Do 525 CHART 50 Du/Do1.00 alpha 90 K'w 0.30 Vu 1.45 WSE 0.21 Ku 1.80 Kw 2.12	0.100	1.80	0.180			2.12 0.	212 0	0.49 0	0.029		419.313 419.284	419.313 419.284	419.49	3 419.52	25 420.0	030 0.5	05 2/
5 1	/1 to	1/1 to 2/1	1/1	15. 15.	.00 11 .00 18	0.67 0.85 0.85	0.093 0.054 0.093 0.054	0.079	0.098 0.125	0.031 0.065	0.000	0.000	0.30	0.290	0.029	0.00	0.00	1/1	20S0.10	0.031		0.000 6/2	15.00 15.00	114 188	0.098 0.125	0.065	1.463	0.034 (Pipe	0.031 flow= Gr	44.093 ate flow)	0.40 3	375(2) 0.: (1.0	27 01) 0.73	G Qg 0.031 Qo 0.031 Do 375 CHRT 32: Vo2/2gDo 0.01 H/Do 1.86 Kg side flow 3.92 end flow 3.21	0.004	4 3.92	0.014			3.92 0.	014 0	0.03	0.013		421.371 421.195	422.081 422.068	422.09	5 422.09	95 422.3	303 0.2	1/
5 100	4/1 te	2A/1 to 2/1	2A/1	60. 60.	.00 5 .00 9	9 0.71 2 0.82	57.000 57.000	040.470 046.740	40.470 46.740	6.633 11.945	0.000	7.000	0.50					2A/1	(Over		n Imp A	rea Maj	60.00 46.740	92 Sum Flo		1.945 Ov		dw Maj	flow= Gr	ate flow)	0.59 9	900(2) 3.1 x 2 (2.2	04 0.09		0.471	1 0.50	0.236			0.50 0.	236 1	.12 0).190		422.155 422.055	422.258 422.068	422.49	4 422.49	94 422.7	700 0.2	:06 2A/
5 100		2B/1 to 2/1	2B/1	25. 25.	.00 9 .00 14	1 0.71 17 0.85	2.500 2.500	1.775 2.125	1.775 2.125	0.449 0.868	0.000	0.000	0.50					2B/1		0.449		0.000 3/1	25.00 25.00	91 147	1.775 2.125	0.868		(Pipe	0.449 flow= Gr			750(2) 0.: (2.:	98 34) 0.30	Part full downstream pipe Upstream HGL 422.121 below outlet pipe obv 422.152 Set Kp to .5	0.049	9 0.50	0.026			0.50 0.	026 0	0.15 0	0.34 (0.267	5 2.24 1(n).97 1y	422.152 422.002	422.095 422.068		1 422.12	21 422.9	910 0.7	'89 2B/
5 100	:/1 te	2/1 to 3/1	1/1;2A/1;2I /1	'B														2/1	30				60.09 60.09	59 92	11.234 17.881	4.570			4.307 Sum ups			350(2) 2.5 (3.5	91 0.55 99)		0.432	2 0.85	0.367			1.25 0.	539 0	0.60).575		421.652 420.575	421.701 421.126	422.06	8 422.24	40 422.6	600 0.3	60 2/
5 100		3/1 to 4/1	1/1;2A/1;2i /1;3/1	B 15.		14 0.67 38 0.85					0.000	0.000	0.53	3.023	0.111	0.74	0.08	3/1	8	0.091	1.792	0.040 4/1	60.64 60.64	59 92	11.649 18.407	4.704			4.354 Sum ups			350(2) 2.1 (2.0	95 06) 0.58	3 Qg 0.047 Qo 4.354 Do 1350 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.01 K 0.23 S/Do 1.42 cor 0.01 Ku 0.24 Kw 0.24	0.444	4 0.24	0.107			0.24 0.	107 0	0.61 0	0.623		420.549 420.243	421.019 420.396	421.12	6 421.12	26 421.4	409 0.2	83 3/
5 4		4/1 to 5/1	1/1;2A/1;2I /1;3/1;4/1	B 20. 1 20.	.00 10 .00 16	01 0.67 05 0.85	0.777 0.777	0.521 0.660	0.521 0.660	0.146 0.303	0.040	0.000	1.00	3.059	0.112	1.03	0.11	4/1	8	0.116	1.997	0.070	61.22 61.22		12.170 19.067				4.354 Sum ups			350(2) 2.1 (2.0		Qg 0.067 Qo 4.354 Do 1350 CHART 33 Angle 9 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.02 K 0.24 S/Do 1.13 cor 0.03 Ku 0.27 Kw 0.27	0.444	4 0.27	0.120			0.27 0.	120 0	0.61).104		420.223 420.172	420.276 420.172	420.39	6 420.39	96 420.7	725 0.3	29 4/

Fellow Chartered Professional Engineer 477749

Mr Craig R Waters

FERLUST, CPEIRS, NER

RPEQ No. 7419, APEC Eng. IntPE(Aust)
FIE PNG No. 4351, Reg Eng PNG No. 2645

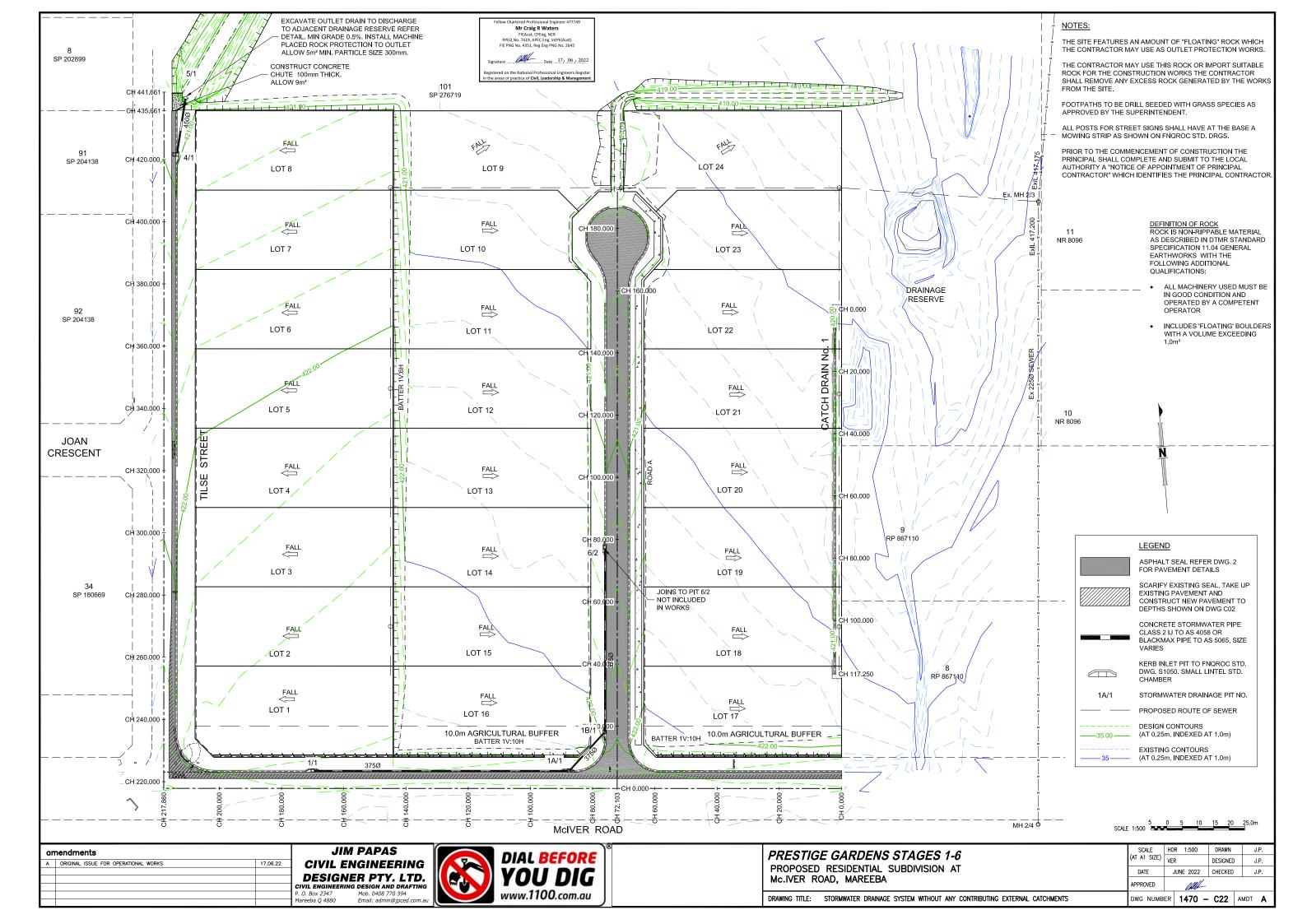
Signature Date 17/ 06 / 2022

Registered on the National Professional Engineers Register in the areas of practice of Civil, Leadership & Management

an	nendments		JIM PAPAS	
Α	ORIGINAL ISSUE FOR OPERATIONAL WORKS	17.06.22	CIVIL ENGINEERING	:
				- 1
			DESIGNER PTY. LTD.	
			P. O. Box 2347 Mob. 0408 770 394	9
			Mareeba Q 4880 Email: admin@jpced.com.	au



PRESTIGE GARDENS STAGES 1-6	SCALE	HOR N.T.S.	DRAWN	J.P.	
	(AT A1 SIZE)	VER	DESIGNED	J.P.	
PROPOSED RESIDENTIAL SUBDIVISION AT	DATE	JUNE 2022	CHECKED	J.P.	
Mc.IVER ROAD, MAREEBA	APPROVED	aut			
DRAWING TITLE: STORMWATER DRAINAGE CALCULATION SHEET	DWG NUMBI	ER 1470 -	C21	AMDT /	4



	LOCATION				SUB-	-CATCHME	NT RUN	IOFF					INLE	T DESIGN	1										DRA	AIN DES	iiGN							Н	EADLOS	SES							PART F	ULL							\neg
			tc	\top		A		Q		+										-	tc	П		Qt	Qm	Qs	Qo	L	S		V	t		V2/2	a Ku	hu	kl	hl	kw	hw	Sf	hf					1			TT	\neg
DESIGN A.R.I. STRUCTURE NO.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	SUB-CATCHMENT TIME OF CONCENTRATION	RAINFALL INTENSITY	COEFFICIENT OF RUNOFF	SUB-CATCHMENT AREA FOLIIVAI FNT ARFA	SUM OF CONTRIBUTING	CATCH	DISCHARGE FLOW PAST	PREVIOUS GULLIES FLOW IN K&C	5 B	FLOW WIDTH	FLOW DEPTH AT INVERT	GUTTER FLOW VELOCITY	- 1	INLE! NUMBER	<u> </u>	FLOW INTO INLET	- P - S - S	BYPASS FLOW	NCENTE		LENT AREA	FLOW	JRFACE PACITY	MAJOR SURFACE FLOW		H LENGTH	PIPE GRADE			IN REACH	STRUCTURE RATIOS FOR "K" VALUE CALCULATIONS	VELOCITY HEAD	SSOTIC SSOTIC	PIPE STRUCTURE LOSS	HEADLOSS IENT	LATERAL PIPE STRUCTURE HEADLOSS		CHANGE IN W.S.E	Æ	PIPE FRICTION HEADLOSS	ОЕРТН	VELOCITY ORVERT FVFLS	i	Drain Section H.G.L U/S RL D/S RL	U/S H.G.L	W.S.E.	SURFACE OR K&C INVERT LEVEL	FREEBOARD	STRUCTURE No.
Years			min	mm/h	h	Ha H	a Ha	ı cume	ecscum	ecscum	ecs	m	m	m/secn	n/sec		cu	mecs	m cur	mecs	min m	nm/h	Ha cu	ımecsc	umecsc	umecs	cumecs	m	%	mm m/	/sec m	min		m		m	m	m		m	%	m	m n	n/sec	m	m	m	m	m	m	
5 100	1/1 to 1A/1	1/1	15.00 15.00		0.71 0.85	0.093 0.06 0.054 0.03 0.093 0.07 0.054 0.04	58 79 0.12	0.06	62 0.00 i5	0.00	0.30	0.296	0.029	0.00	0.00 1,	/1 2050	0.10 0	.032	0. 1/	.000 1 A/1 1	5.00 1 5.00 1	14 0. 188 0.	.100 0 .125	.065	1.463	0.034 (Pipe fle	0.032 82 ow= Grate	2.491 1 e flow)	1.46 37	5(2) 0.	.28 .93)	C	Qg 0.032 Qo 0.032 Do 375 CHRT 32: Vo2/2gDo 0.01 H/Do 0.00 Kg side flow 10.56 end flow 7.41 Part full downstream pipe	0.004	1.00	0.097	pipe o	am HGL by 421.8 to 1	421.644			0.025 (0.	0.098 077 1 (1).	1.38 42 20 1y) 42	11.830 20.630	421.547 420.874	421.644	421.644	422.303	0.659 1/	,/1
5 100	1A/1 to 1B/1	1/1;1A/1	10.00 10.00	134 224	0.67 0.85	0.041 0.02 0.041 0.03	27 0.02 55 0.03	7 0.01 5 0.02	0.00	0.00	0.30	1.008	0.050	0.34	0.02 1A	/1 8	0	.008 0.			6.37 1 6.37 1			.080			0.038 17 um upstr			5(2) 0. (1.	.33 0. 82)	A D Q	2g 0.007 Qo 0.038 Do 375 Angle 48 Chart 39 S/Do 2.5 chartdeg Du/Do 1.00 KO 1.80 KO.5 1.91 Du/Qo 0.81 Cg 0.45 K 1.85 C/Do 2.0 KO 1.98 KO.5 2.10 K 2.04 S/Do 1.5 KO 2.39 KO.5 2.52 K 2.45	0.006	1.89	0.011	CHART S/Do S/Do	val for \$	/Do 1.7 .84 KO.! .05 KO.!	70 Kw : 5 1.75 5 1.84	K 1.80 K 1.96				20.610 20.391	420.863 420.856	420.874	420.876	422.294	1.418 1A,	4/1
5 1B/1	1B/1 to 6/2	1/1;1A/1;1E	B 10.00 10.00	134 224	0.67 0.85	0.028 0.01 0.028 0.02	9 0.019	9 0.00 4 0.01	0.00 5	0.00	00 1.04	0.631	0.039	0.54	0.02 1B	/1 8	0	.007 0.			6.65 1 6.65 1			.091	(Pipe		0.043 59 um upstr			5(2) 0.	.38 0. .01)	A D Q S	2g 0.006 Qo 0.043 Do 375 Angle 42 Chart 39 S/Do 2.5 chartdeg Du/Do 1.00 KO 1.86 KO.5 1.91 2u/Qo 0.86 Cg 0.34 K 1.84 S/Do 2.5 KO 1.80 KO.5 1.91 K 1.84 S/Do 2.5 KO 1.98 KO.5 2.10 K 2.02	0.007	7 1.74	0.013	Interp CHART S/Do S/Do	val for S 38 2.5 KO 1 2.0 KO 1 val for S	/Do 2 2 .70 KO.! .84 KO.!	28 Kw 5 1.66 5 1.75	K 1.69 K 1.81			42 42	0.371 0.133	420.843 420.810	420.856	420.857	421.874	1.017 1B,	3/1
5 100 6/2	6/2 to 5/2	1/1;1A/1;1E /1;6/2		114 188	0.67 0.85	0.485 0.32 0.485 0.41	0.325 2 0.412	5 0.10 2 0.21	0.00 5	0.00	00 1.04	2.338	0.090	0.91	0.08 6,	/2 8	0	.077 1.		.027 1 5/2 1	7.64 1 7.64 1	06 0. 175 0.	.471 0 .596	.290	2.705 (Pipe	0.176 flow= S	0.114 50 um upstr	0.999 C atten fl	0.40 37 lows)		.00 0. .01)	C S D	Og 0.072 Qo 0.114 Do 375 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.63 K 1.75 S/Do 2.83 cor −0.12 Ku 1.63 Kw 1.63		1.63	0.083			1.63	0.083	0.39	0.197				420.727 420.530	420.810	420.810	421.254	0.444 6/	5/2
5 100 5/2	5/2 to 4/2	1/1;1A/1;1E /1;6/2;5/2	B 15.00 2 15.00	114 188	0.67 0.85	0.367 0.24 0.367 0.31	0.244 2 0.312	6 0.07 2 0.16	8 0.02 i3	27 0.00	00 1.04	2.346	0.090	0.91	0.08 5,	/2 8	0	.078 1.		.028 1 4/2 1	8.49 1 8.49 1	04 0. 171 0.	.717 0 .908	1.431			0.182 30 um upstr				.60 0. .60)	S D	Qg 0.071 Qo 0.182 Do 375 CHART 33 Angle 0 5/Do 2.5 Du/Do 1.00 Qg/Qo 0.39 K 1.30 S/Do 2.68 cor -0.04 Ku 1.26 Kw 1.26		1.26	0.164			1.26	0.164	0.99	0.301			9.889 9.588	420.366 420.065	420.530	420.530	420.723	0.193 5/	i/2
5 100 4/2	4/2 to 3/2	1/1;1A/1;1E /1;6/2;5/2; /2	B 15.00 ;4 15.00			0.222 0.14 0.222 0.18				28 0.00	00 1.04	2.014	0.080	0.84	0.07 4,	/2 8	0	.058 0.		.016 1 3/2 1	8.81 1 8.81 1	03 0. 169 1.	.866 0 .097	.515			0.233 28 um upstr				.42 0. .42)	C S D	Qg 0.053 Qo 0.233 Do 450 CHART 33 Angle 7 S/Do 2.5 Du/Do 0.83 Qg/Qo 0.23 K 0.50 S/Do 1.92 cor 0.11 Ku 0.61 Kw 0.61	0.103	3 0.61	0.063			0.61	0.063	0.62	0.174			9.644 9.470	420.002 419.828	420.065	420.065	420.405	0.340 4/	/2
5 100 3/2	3/2 to 2/2	1/1;1A/1;1E /1;6/2;5/2; /2;3/2	B 15.00 ;4 15.00	114 188	0.71 0.85	0.182 0.12 0.224 0.15 0.182 0.15 0.224 0.19	59 0.345	0.18		16 0.00	0.90	1.507	0.065	0.00	0.00 3,	/2 2050	0.10 0	.105	0.		9.14 1 9.14 1			.673			0.328 35 um upstr				.47 0. .47)	C S D	Qg 0.095 Qo 0.328 Do 525 CHART 33 Angle 7 S/Do 2.5 Du/Do 0.86 Qg/Qo 0.29 K 0.83 S/Do 1.57 cor 0.29 Ku 1.12 Kw 1.12	0.110	1.12	0.123			1.12	0.123	0.53	0.191			9.527 9.336	419.705 419.514	419.828	419.828	420.100	0.272 3/	1/2
5 100 2/2	2/2 to 1/2	1/1;1A/1;1E /1;6/2;5/2; /2;3/2	;4												2,	/2					9.55 1 9.55 1			.665	(Pipe	flow= Su	0.328 6 um upstr	5.001 C atten fl	0.53 52 lows)	5(2) 1.	.47 0. .47)	C	Qo 0.328 Do 525 CHART 50 Du/Do1.00 alpha 90 ('w 0.30 Vu 1.52 WSE 0.23 Ku 1.80 Kw 2.12	0.110	1.80	0.198			2.12	0.233	0.53	0.032				419.316 419.284	419.514	419.549	420.030	0.481 2/	!/2
5 100 4/1	4/1 to 5/1	4/1				1.396 0.93 1.396 1.18				0.00	1.00	3.711	0.131	1.15	0.15 4/	/1 8	0	.149 2.	.762 0.		5.00 1 5.00 1	14 0. 188 1.	.935 0 .187	.620			0.149 17 ow= Grate		0.40 45		.91 0. .14)	C	Qg 0.149 Qo 0.149 Do 450 CHRT 32: Vo2/2gDo 0.09 H/Do 0.00 Kg side flow 8.03 end flow 6.15 Part full downstream pipe	0.042	1.00	0.082	Upstre pipe o	am HGL by 420.3 to 1	420.257	0.082 below	0.25 outlet	0.043 (0.	0.307 259 1 (/) .:	1.27 42 20 1y) 42	0.325 0.257	420.175 420.130	420.257	420.257	420.725	0.468 4/	J/1

Fellow Chartered Professional Engineer 477749

Mr Craig R Waters

FIEAust, CPEng, NER

RPEQ.No. 7419, APEC Eng, IntPE(Aust)

FIE PNG No. 4351, Reg Eng PNG No. 2645 Registered on the National Professional Engineers Register n the areas of practice of **Civil, Leadership & Management**

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Α	ORIGINAL ISSUE FOR OPERATIONAL WORKS	17.06.22	CIVIL E	NGINEERING
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PRESTIGE GARDENS STAGES 1-6
PROPOSED RESIDENTIAL SUBDIVISION AT
Mc.IVER ROAD, MAREEBA

PRESTIGE GARDENS STAGES 1-6		HOR N.T.S.	DRAWN	J.P.
	(AT A1 SIZE)	VER	DESIGNED	J.P.
PROPOSED RESIDENTIAL SUBDIVISION AT	DATE	JUNE 2022	CHECKED	J.P.
Mc.IVER ROAD, MAREEBA	APPROVED	all		
DRAWING TITLE: STORWWATER DRAINAGE CALCULATION SHEET FOR DRAINAGE SYSTEM WITHOUT EXTERNAL CONTRIBUTING CATCHMENTS	DWG NUMBE	R 1470 -	· C23	AMDT A