DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) 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

Energy Queensland Limited Katrina Benyon					
Katrina Benyon					
_evel 6, 420 Flinders Street					
Townsville City					
QLD					
4810					
Australia					
0429 045 827					
katrina.benyon@energyq.com.au					
0429 045 827					
Applicant's reference number(s) (if applicable)					
1.1) Home-based business					
Personal details to remain private in accordance with section 264(6) of <i>Planning Act 2016</i>					
1 \ \ \ \ \ \					

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

3) Location of the premises (complete 3.1) or 3.2), and 3.3) as applicable) Note: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see <u>DA</u> Forms Guide: Relevant plans.									
3.1) Street address and lot on plan									
Stre	eet address	AND lo	ot on pla	n (a <i>ll lo</i>	ts must be liste	ed), or			
Street address AND lot on plan for an adjoining or adjacent property of the premises (appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).									
	Unit No.	nit No. Street No.			Street Name and Type				Suburb
- \		7		New Queens Road					Queenton
a)	Postcode	Lot No.		Plan	Type and N	umber (e	e.g. R	P, SP)	Local Government Area(s)
	4820	1		MPH:	21569				Charters Towers Regional Council
	Unit No.	Stree	t No.	Stree	t Name and	Туре			Suburb
b)	Postcode	Lot N	0.	Plan	Type and No	umber (e	e.g. R	P, SP)	Local Government Area(s)
Note: P	3.2) Coordinates of premises (appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay) Note: Place each set of coordinates in a separate row.								
	ordinates of	premis			e and lantud				Local Covernment Area(a) (if anyline bla)
Longitude(s) Latitude			le(S)	_			Local Government Area(s) (if applicable)		
						3S84 3A94			
				☐ Othe		i			
ПСос	ordinates of	premis	es by e	asting	and northing				
Eastin			ing(s)		Zone Ref.	Datum			Local Government Area(s) (if applicable)
	9(-)		9(-)		□ 54 □ WGS84		-		
				☐ 55 ☐ GDA94					
					<u>56</u>	☐ Oth	ner:		
3.3) Ad	dditional prei	mises							
			re releva	ant to t	his developr	nent ap	plicat	ion and the d	etails of these premises have been
	ached in a sc								·
⊠ Not	t required								
4) 1.1.				. 1 1		•			
								vide any rele	vant details
ŀ	or adjacent to		•			in or ab	ove a	an aquiter	
Name of water body, watercourse or aquifer: On strategic port land under the <i>Transport Infrastructure Act 1994</i>									
1	• .				•	tructure T	ACT	1994	
ŀ	plan descrip		_	•	land:	-			
	Name of port authority for the lot:								
☐ In a tidal area									
Name of local government for the tidal area (if applicable):									
Name of port authority for tidal area (if applicable)									

On airport land under the Airport Assets (Restructuring	and Disposal) Act 2008					
Name of airport:						
Listed on the Environmental Management Register (EM	IR) under the Environmental Protection Act 1994					
EMR site identification:						
Listed on the Contaminated Land Register (CLR) unde	r 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 correctly and accurately. For further information on easements and how they may affect the proposed development, see <u>DA Forms Guide</u> .						
☐ Yes – All easement locations, types and dimensions ar application☒ No	e included in plans submitted with this development					

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 approval □ Preliminary approval □ P							
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 lots):							
Redevelopment of EQL Charters Towers Depot							
e) Relevant plans Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: 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 approv							
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 DA Forms Guide: Relevant plans .							
Relevant plans of the proposed development are attached to the development application							



6.3) Additional aspects of de	velopment				
Additional aspects of deve	elopment are		this development application		•
	der Part 3 S	Section 1 of	this form have been attache	ed to this development a	oplication
Not required 6.4) In the application for Sta	to facilitated	Ldovolopmo	nt?		
6.4) Is the application for Sta Yes - Has a notice of decl					
No	aration been	ir giveri by ti	ie wiilister:		
Section 2 – Further devel	opment de	etails			
7) Does the proposed develo	pment appli	cation invol	ve any of the following?		
Material change of use	☐ Yes -	- complete c	livision 1 if assessable agai	nst a local planning instr	ument
Reconfiguring a lot	☐ Yes -	- complete c	livision 2		
Operational work	⊠ Yes -	- complete c	livision 3		
Building work	Yes -	- complete L	DA Form 2 – Building work o	details	
Division 1 Motorial change	of uso				
Division 1 – Material change Note: This division is only required to l		f any nart of the	e develonment application involves	a material change of use assi	essable against a
local planning instrument. 8.1) Describe the proposed n	•		чественный аррисалын повтес	a material change of acc acc.	coodbie againot a
Provide a general description	of the	Provide the	e planning scheme definitio	n Number of dwelling	Gross floor
proposed use		(include each	n definition in a new row)	units (if applicable)	area (m²) (if applicable)
8.2) Does the proposed use i	nvolve the ι	use of existin	ng buildings on the premise	s?	
Yes					
□ No					
8.3) Does the proposed deve	lopment rel	ate to tempo	orary accepted developmen	t under the Planning Reզ	gulation?
Yes – provide details belo	w or include	e details in a	schedule to this developme	ent application	
∐ No					
Provide a general description	of the temp	orary accep	oted development	Specify the stated per under the Planning F	
				under the Framming F	regulation
Division 2 – Reconfiguring a	lot				
Note: This division is only required to b				reconfiguring a lot.	
9.1) What is the total number	of existing	lots making	up the premises?		
9.2) What is the nature of the	lot reconfig	uration? <i>(tic</i>			
Subdivision (complete 10)				by agreement (complete 1	
☐ Boundary realignment (complete 12) ☐ Creating or changing an easement giving access to a lot from a constructed road (complete 13)					



10) Subdivision	10) Subdivision									
10.1) For this development, how many lots are being created and what is the intended use of those lots:										
Intended use of lots	created	Residential	Com	mercial	Industrial	Other, please specify:				
Number of lots crea	ted									
10.2) Will the subdiv	/ision he sta	ned?								
☐ Yes – provide ad										
_	How many stages will the works include?									
What stage(s) will the apply to?	nis developm	ent application								
11) Dividing land into parts?	o parts by ag	reement – how	many part	s are being o	created and what is	s the intended use of the				
Intended use of part	ts created	Residential	Com	mercial	Industrial	Other, please specify:				
Number of parts cre	ated									
12) Boundary realig	nmont									
12.1) What are the o		proposed areas	for each lo	t comprising	the premises?					
12.1) What are the t	Current l		TOT GUOTI TO	r comprioring	Propos	sed lot				
Lot on plan descript	ion Ar	ea (m²)		Lot on plan	· 1	Area (m²)				
12.2) What is the re-	ason for the	boundary realig	nment?							
13) What are the dir	nensions an	d nature of any	existing ea	sements bei	ng changed and/o	r any proposed easement?				
(attach schedule if there Existing or		wo easements) Length (m)	Durnaga	f the easem	ont? (o.a.	dentify the land/lot(s)				
proposed?	vvidiri (III)	Lengui (iii)	pedestrian a			penefitted by the easement				
Division 3 – Operati	onal work									
Note: This division is only required to be completed if any part of the development application involves operational work.										
14.1) What is the na	iture of the o	perational work		\r_	☐ Water infra	octructure				
│			Stormwate Earthwork		_	frastructure				
Landscaping			Signage		☐ Clearing v					
Other – please s	pecify:		<u> </u>			-				
14.2) Is the operational work necessary to facilitate the creation of new lots? (e.g. subdivision)										
Yes – specify nu	mber of new	lots:								
⊠ No										



14.3) What is the monetary value of the proposed operational work? (include GST, materials and labour)	
\$705,401.05	

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application
Charters Towers Regional Council
16) Has the local government agreed to apply a superseded planning scheme for this development application?
Yes – a copy of the decision notice is attached to this development application The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
⊠ 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
☐ SEQ northern inter-urban break – tourist activity or sport and recreation activity



☐ SEQ northern inter-urban break – community activity									
SEQ northern inter-urban break – indoor recreation									
SEQ northern inter-urban break – urban activity									
SEQ northern inter-urban break – 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 dis	stribution entity or transmissi	on entity:							
☐ Infrastructure-related referrals – Electricity infrastructure	e								
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 infrastructu									
Matters requiring referral to the Brisbane City Council:									
Ports – Brisbane core port land									
Matters requiring referral to the Minister responsible for administering the <i>Transport Infrastructure Act 1994</i> :									
Ports – Brisbane core port land (where inconsistent with the									
Ports – Strategic port land	,								
Matters requiring referral to the relevant port operator , if	applicant is not port operator:								
Ports – Land within Port of Brisbane's port limits (below I									
Matters requiring referral to the Chief Executive of the re									
Ports – Land within limits of another port (below high-water	•								
	·								
Matters requiring referral to the Gold Coast Waterways A	_								
☐ Tidal works or work in a coastal management district (in	Gold Coast waters)								
Matters requiring referral to the Queensland Fire and Em	ergency Service:								
☐ Tidal works or work in a coastal management district (in	volving a marina (more than six vessel b	berths))							
18) Has any referral agency provided a referral response for	or this development application?								
☐ Yes – referral response(s) received and listed below are ☐ No	e attached to this development a	application							
Referral requirement	Referral agency	Date of referral response							
Total agono, Bate of following the police									
Identify and describe any changes made to the proposed of referral response and this development application, or inclinify applicable).		_							

PART 6 - INFORMATION REQUEST

19) Information request under the	ne 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 development application									
Note: By not agreeing to accept an information request I, the applicant, acknowledge:									
 that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties 									
Part 3 under Chapter 1 of the DA	Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or								
•	Rules will still apply if the application is for	r state facil	litated development						
Further advice about information reques	sts is contained in the <u>DA Forms Guide</u> .								
PART 7 – FURTHER DI	ETAILS								
20) Are there any associated de	evelopment applications or curren	t approv	/als? (e.g. a preliminary app	roval)					
	or include details in a schedule to								
No	or include details in a scriedule to	uns dev	reiopinent application						
List of approval/development	Reference number	Date		Accomment					
application references	Reference number	Date		Assessment manager					
Approval									
Development application									
Approval									
Development application									
<u> Ветегеринент арригаател</u>									
21) Has the portable long service operational work)	ce leave levy been paid? (only appl	icable to de	levelopment applications invo	lving building work or					
☐ Yes – a copy of the receipted	d QLeave form is attached to this	develop	ment application						
assessment manager decide	vide evidence that the portable lo es the development application. I al only if I provide evidence that th	acknowl	ledge that the assessme	ent manager may					
	give a development approval only if I provide evidence that the portable long service leave levy has been paid Not applicable (e.g. building and construction work is less than \$150,000 excluding GST)								
Amount paid	Date paid (dd/mm/yy)	(QLeave levy number (A	., B or E)					
\$				· ·					
22) Is this development applicat	tion in response to a show cause	notice o	r required as a result of	an enforcement					
notice?			,						
Yes – show cause or enforce	ement notice is attached								
⊠ No									

23) Further legislative require	ments						
Environmentally relevant a	ctivities_						
23.1) Is this development application also taken to be an application for an environmental authority for an							
	activity (ERA) under section 115 of						
	nent (form ESR/2015/1791) for an a ment application, and details are pro						
⊠ No							
	al authority can be found by searching "ESR/ o operate. See www.business.gld.gov.au for		at <u>www.qld.gov.au</u> . An ERA				
Proposed ERA number:		sed ERA threshold:					
Proposed ERA name:							
Multiple ERAs are applica this development applicati	ole to this development application a on.	and the details have bee	en attached in a schedule to				
Hazardous chemical faciliti	<u>es</u>						
23.2) Is this development app	lication for a hazardous chemical f	acility?					
	on of a facility exceeding 10% of sch	nedule 15 threshold is a	attached to this development				
application ⊠ No							
	for further information about hazardous chen	nical notifications.					
Clearing native vegetation							
	application involve clearing native v						
the chief executive of the Veg section 22A of the Vegetation	etation Management Act 1999 is sa Management Act 1999?	tisfied the clearing is fo	r a relevant purpose under				
☐ Yes – this development ap Management Act 1999 (s:	pplication includes written confirmation 22A determination)	on from the chief execu	tive of the Vegetation				
⊠ No	·						
Note: 1. Where a development app	lication for operational work or material chang n is prohibited development.	ge of use requires a s22A det	rermination and this is not included,				
2. See https://www.qld.gov.au	/environment/land/vegetation/applying for fur	ther information on how to ol	otain a s22A determination.				
Environmental offsets							
	lication taken to be a prescribed act matter under the <i>Environmental Of</i>		gnificant residual impact on				
	an environmental offset must be pro al impact on a prescribed environme		d activity assessed as				
⊠ No	·						
Note : The environmental offset section environmental offsets.	on of the Queensland Government's website	can be accessed at <u>www.qlc</u>	l <u>.gov.au</u> for further information on				
Koala habitat in SEQ Regio	<u>n</u>						
	application involve a material chang nent under Schedule 10, Part 10 of t						
	plication involves premises in the ko		•				
	plication involves premises in the ko	oala habitat area outside	e the koala priority area				
No Note: If a koala habitat area determ	nation has been obtained for this premises a	nd is current over the land. it	should be provided as part of this				
	habitat area guidance materials at <u>www.desi.</u>						



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 Resources at <u>www.resources.qld.gov.au</u> for further information.
DA templates are available from <u>planning.statedevelopment.qld.gov.au</u> . 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.
Taking Grenaria new water. Complete DA Form F Femplate 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 <u>planning.statedevelopment.qld.gov.au</u> . 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 www.daf.qld.gov.au 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 Resources at <u>www.resources.qld.gov.au</u> and <u>www.business.qld.gov.au</u> 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, Science and Innovation at www.desi.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: NEE GUIGERCE METERIALS OF WWW. RECOURCES OUR GOVERN TON TURINER INFORMATION



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Water resources

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.desi.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							
Note: See guidance materials at www.desi.gld.gov.au for information requirements regarding development of Queensland heritage places. For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at www.planning.statedevelopment.qldgov.au for information regarding assessment of Queensland heritage places.							
Name of the heritage place: Place ID:							
Decision under section 62 of the Transport Infrastructure Act 1994							
23.14) 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							
23.15) 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 www.planning.statedevelopment.qld.gov.au 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 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</u>

Note: Relevant plans are required to be submitted for all aspects of this development application. For further

The portable long service leave levy for QLeave has been paid, or will be paid before a

Relevant plans of the development are attached to this development application



☐ Not applicable

X Yes

Forms Guide: Planning Report Template.

information, see <u>DA Forms Guide: Relevant plans.</u>

development permit is issued (see 21)

25) Applicant declaration	
igtigtigtigtigtigtigtigtigtigt	all information in this development application is true and
correct	
Where an email address is provided in Part 1 of this fo	rm, I consent to receive future electronic communications for the development application where written information
is required or permitted pursuant to sections 11 and 12	
Note: It is unlawful to intentionally provide false or misleading information	
Privacy – Personal information collected in this form will be	
assessment manager, any relevant referral agency and/or	
which may be engaged by those entities) while processing All information relating to this development application ma	
published on the assessment manager's and/or referral ag	
Personal information will not be disclosed for a purpose un	•
Regulation 2017 and the DA Rules except where:	3 3 3 3 3
	pout public access to documents contained in the <i>Planning</i>
Act 2016 and the Planning Regulation 2017, and the a	ccess rules made under the <i>Planning Act 2016</i> and
Planning Regulation 2017; or required by other legislation (including the <i>Right to Info</i>	armation Act 2000): or
otherwise required by law.	irriation Act 2009), of
This information may be stored in relevant databases. The	e information collected will be retained as required by the
Public Records Act 2002.	will be retained as required by the
PART 9 – FOR COMPLETION OF THE AS	SSESSMENT MANAGER – FOR OFFICE
USE ONLY	
Date received: Reference number	per(s):
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Notification of engagement of alternative assessment mar	ager
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26.06.25

GENERAL

- IF IN DOLIRT ASK
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND ALL INFORMATION ISSUED BY THE SUPERINTENDENT DURING THE COURSE OF THE CONTRACT.
- SURVEY BY STANTEC AUSTRALIA PTY LTD. ALL LEVELS ARE AHD. ORIGIN MARK PSM 56728 MERIDIAN MGA 2020
- SURVEY CONTROL MARKS AND DETAILS ARE NOTED ON DRAWINGS.
- ALL SET OUT SHALL BE AS PER ARCHITECTS DRAWINGS (UNO) G5
- ALL DIMENSIONS AND RADII ARE EXPRESSED IN METRES (UNO)
- DRAWINGS SHALL NOT BE SCALED
- EXISTING CONTOURS, LEVELS AND FEATURES SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY AND ARE BASED ON SURVEY DRAWINGS AND DATA PROVIDED BY STANTEC AUSTRALIA PTY LTD
- ALL DIMENSIONS RELEVANT TO SETTING OUT, SURFACE LEVELS AND INVERT LEVELS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE SUPERINTENDENT
- PRIOR TO COMMENCEMENT OF WORKS THE CONTRACTOR IS TO IDENTIFY AND BE SATISFIED OF THE CORRECT LOCATIONS OF ALL EXISTING SERVICES WHETHER INDICATED OR NOT ON THE PLANS. ANY DAMAGE TO EXISTING SERVICES IS TO BE RECTIFIED AS SOON AS POSSIBLE AT THE CONTRACTORS EXPENSE
- THE CONTRACTOR SHALL ENSURE THAT ALL WORKS ARE MAINTAINED IN A SAFE AND STABLE CONDITION AND THAT ADEQUATE PROTECTION AGAINST EROSION AND SILTATION IS IN PLACE.
- WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RELEVANT CTRC AND SAA STANDARDS AND THE REQUIREMENTS OF COUNCIL
- GRADE EVENLY BETWEEN LEVELS SHOWN EXCEPT WHERE LEVELS INDICATE VERTICAL CURVES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION PROTECTION AND SEDIMENT CONTROL
- FOR THE WORKS AS SPECIFIED AND TO THE SATISFACTION OF THE SUPERINTENDENT. CONFIRM ALL EXISTING LEVELS WHERE APPROPRIATE. IF LEVELS ARE DIFFERENT TO INDICATED CONFIRM COURSE OF ACTION WITH ENGINEER.
- G16 ALL WORKS TO COMPLY WITH CTRC STANDARDS AND DEVELOPMENT MANUAL UNO.

DUST CONTROL

- TOPSOIL STOCKPILES ARE TO BE WATERED AND LIGHTLY COMPACTED TO ENSURE MINIMAL DUST DISTURBANCE PRIOR TO RESPREADING.
- SITE TO BE KEEP MOIST AT ALL TIMES TO ENSURE DUST CONTROL
- UNCOMPLETED WORKS ARE TO BE WATERED AND ROLLED AT THE END OF EACH WORKING DAY TO ENSURE A FIRM SEALED SURFACE TO CONTROL DUST.

SEDIMENT CONTROL

- SC1 IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT THE SITE AND SURROUNDING AREAS FROM DAMAGE RESULTING FROM STORMWATER RUNOFF. TEMPORARY DIVERSION DRAINS AND OR OTHER DRAINAGE CONTROL DEVICES ARE TO BE IMPLEMENTED BY THE CONTRACTOR DURING CONSTRUCTION TO MINIMISE THE EFFECTS OF WET WEATHER.
- SC2 CONTROL WILL BE VIA THE INSTALLATION OF SILT FENCING, CATCH DRAINS, CHECK DAMS AND HAYBALE BARRIERS. REFER IECA FOR INSTALLATION GUIDELINES FOR EROSION AND SEDIMENT CONTROL DEVICES
- TOPSOIL STOCK-PILES ARE TO BE LOCATED IN AREAS CLEAR OF SERVICING, WATERCOURSES, ROAD AND DRAINAGE WORKS AND PROVIDED WITH SILT FENCING ON THEIR DOWNSTREAM SIDE.
- DURING THE PROJECTS CONSTRUCTION, ALL PITS ARE TO BE BLOCKED OFF AT THE SURFACE AND RUNOFF FLOWS ARE TO BE DIRECTED TO THE SEDIMENT PONDS WHERE CONTAMINATED WATERS CAN BE TREATED UNTIL THE SURROUNDING LANDSCAPE HAS BEEN STABILISED TO THE SATISFACTION OF THE SITE SUPERINTENDENT. ONLY ON THE COMPLETION OF WORKS ARE THE SEDIMENT PONDS ARE TO BE REMOVED.
- REFER TO IPWEAQ STD DWG No. D-0040 AND D-0041 FOR FURTHER DETAILS OF SEDIMENT CONTROL DEVICES.
- ALL BATTERS TO BE STABILISED WITHIN 10 DAYS OF COMPLETION OF BULK EARTHWORKS (eg. HYDROMULCHING, TURFING etc.).
- SURROUNDING CARRIAGEWAYS TO BE KEPT CLEAN OF ANY MATERIAL CARRIED ONTO ROADWAY BY CONSTRUCTION VEHICLES FROM SITE.
- THE CONTRACTOR SHALL PROVIDE A STORMWATER MANAGEMENT PLAN FOR APPROVAL PRIOR TO STARTING WORKS.

SITE CLEARANCE

- THE SITE SHALL BE CLEARED ONLY TO THE EXTENT NECESSARY TO PERMIT CONSTRUCTION OF THE PERMANENT WORKS U.N.O.
- AREAS TO BE USED FOR STOCKPILING EXCESS EXCAVATED MATERIALS SHALL BE CLEARED AND STRIPPED OF TOPSOIL AND OTHER UNSUITABLE MATERIAL
- ALL ITEMS NOMINATED ON THE DRAWINGS TO BE REMOVED ARE TO BE DISPOSED OF OFF SITE. REMOVED VEGETATION IS TO HAVE ALL ROOTS GRUBBED OUT AND DISPOSED OF OFF SITE. ALL OFFSITE DISPOSAL IS AT CONTRACTORS EXPENSE.
- CLEARING AND DEMOLITION OPERATIONS SHALL BE CARRIED OUT ONLY WITHIN THOSE AREAS AFFECTED BY THE PROPOSED WORKS UNLESS NOTICE OTHERWISE
- PRIOR EXCAVATION COMMENCING THE CONTRACTOR WILL PRESENT 48 HOURS PRIOR TO WORKS COMMENCING 'DIAL BEFORE YOU DIG'

EARTHWORKS

E1 REFER TO STRUCTURAL DRAWINGS FOR FARTHWORKS REQUIREMENTS

CONCRETE AND REINFORCEMENT

CR1 REFER TO THE STRUCTURAL DRAWINGS FOR ALL CONCRETE AND REINFORCEMENT DETAILS.

STORMWATER

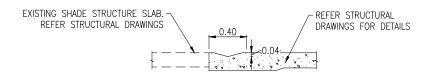
- BEDDING SHALL BE TYPE HS2 AS SPECIFIED IN AS3725.
- SW2 GRADE PIPES AT 1% MINIMUM U.N.O
- PIPELAYING SHALL COMMENCE AT THE DOWNSTREAM END OF THE WORKS AT ALL TIMES.

PAVEMENT MATERIAL

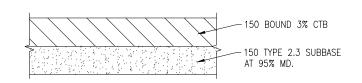
- TYPE 2.3 CEMENT TREATED BASE 3% CEMENT BY VOLUME
- ALL TESTING OF THE PAVEMENT MATERIALS SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE BUILDERS/CONTRACTORS EXPENSE
- ALL BASECOURSE AND SUB-BASECOURSE MATERIALS SHALL CONFORM WITH AUSTRALIAN STANDARDS
- ALL BASECOURSE AND SUB-BASE MATERIALS SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OF +OR- 2% IN ACCORDANCE WITH AS1289 E1.1

Point	Northing	Easting	Elevation	Description
T1	7780327.027	423922.591	298.91	PISO/SPIKE
T2	7780298.263	423857.334	298.84	PISO/SPIKE
T3	7780290.757	423874.687	298.76	PISO/SPIKE
Z101	7780171.297	423942.783	301.83	PPMK/PM146086
Z1002	7780249.350	423989.680	300.93	PPMK/OPM 56728

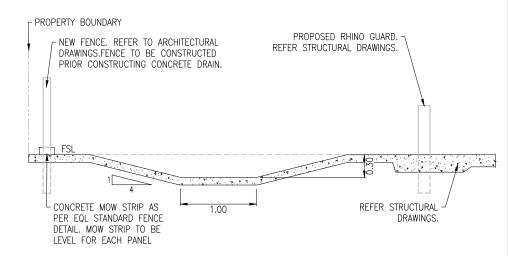
SURVEYED C THOMSON, 28/04/2025 MGA2020 Via OPM 56728 AHD(D) Via OPM 56728



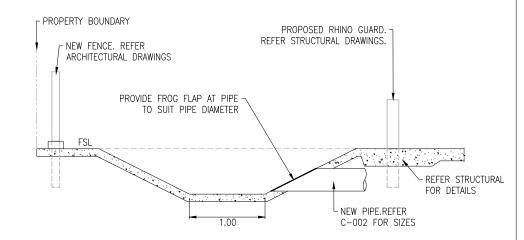
TYPICAL 400mm WIDE V DRAIN SCALE 1:10 @ A1



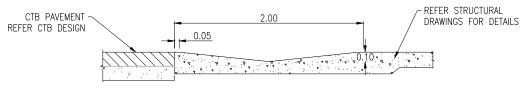
CTB PAVEMENT DESIGN SCALE 1:10 @ A1



TYPICAL TRAPEZOIDAL DRAIN SCALE 1:25 @ A1



NEW STROMWATER PIPE THROUGH TRAPEZOIDAL DRAIN DETAILS SCALE 1:25 @ A1



TYPICAL 2000mm WIDE V DRAIN SCALE 1:20 @ A1

NERGY	QUEENSLAND	LIMITE

ENERGY QUEENSLAND LIMITED	SCALE		AS	SHO	WN	
FOI CHARTERS TOWERS DEPOT	SHEET	SERIES				
7 NEW QUEEN ROAD, CHARTERS TOWER	REVISION	Α				
GENERAL NOTES	DRG No.	1394_C001				

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LEGEND:

— (s) — EXISTING SEWER SERVICES

— — EXISTING STORMWATER

EXISTING UNDERGROUND ELEC. LINE

· · · · · · · UNKNOWN SERVICE

EXISTING BUILDINGS

---- EXTENT OF EXISTING CONCRETE

— (W) —— NEW WATER MAIN

--- (E) --- NEW ELECTRICAL LINE

PROPOSED CONCRETE PAVEMENT

PROPOSED CONCRETE OPEN DRAIN

PROPOSED ROCK PROTECTION

PROPOSED TYPE 2.3 CEMENT TREATED

△ BASE (3%)

PROPOSED STORMWATER PIPE

PROPOSED STORMWATER PIT WITH GRATE

PROPOSED STORMWATER PIT WITH LID

---- CHAINGE OF GRADE

------ PROPOSED GUARD RAIL

----298.5 ---- MAJOR CONTOUR LINE

—— ·298.4- — MINOR CONTOUR LINE

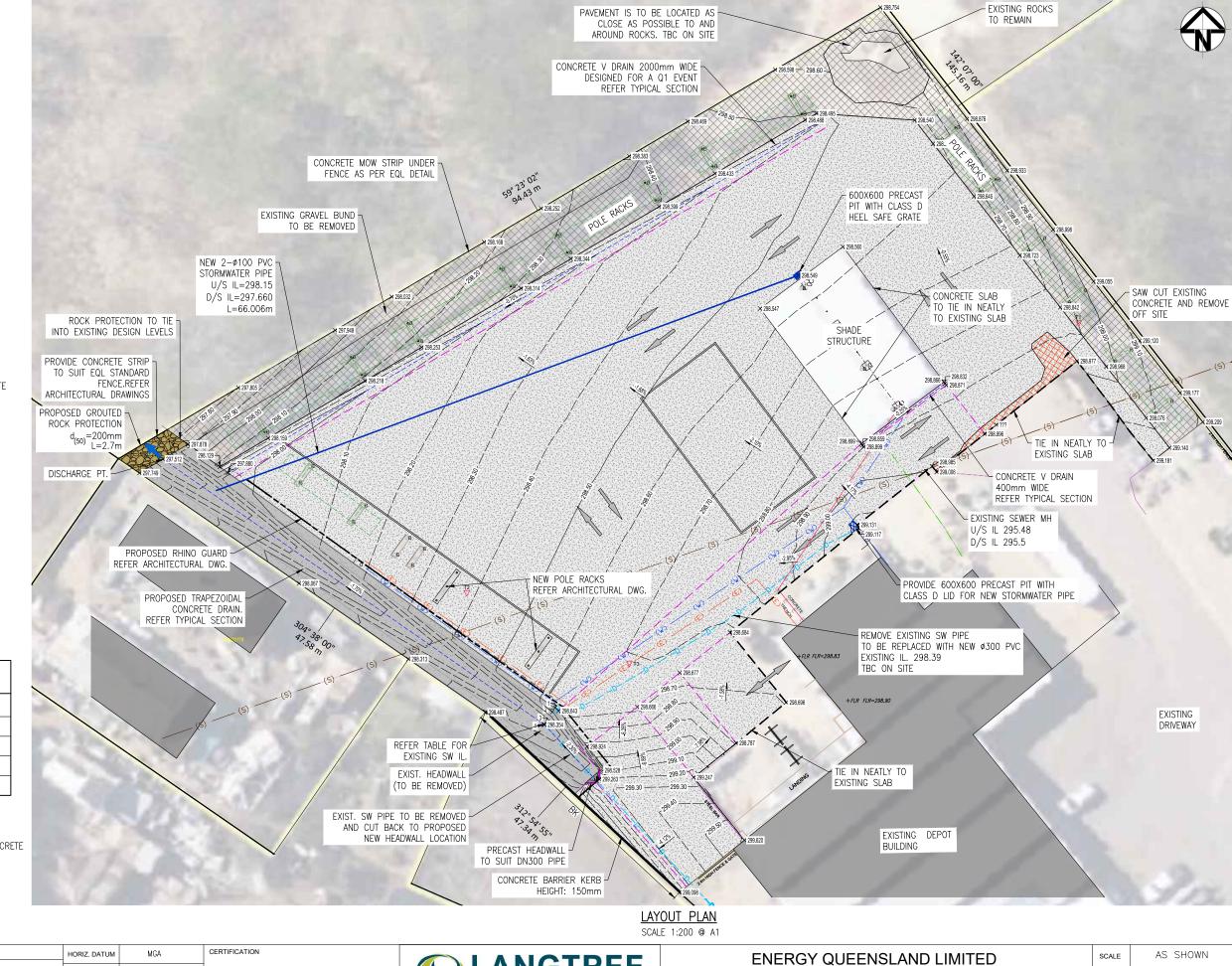
×298.90 PROPOSED RL

1.00% SLOPE

EXISTIN	IG SW INVE	RT LEVELS (TBC)
Point #	Elevation	Description
1	298.390	300 PVC INVERT
2	298.360	375 PVC INVERT
3	298.360	300 PVC INVERT
4	298.330	350 PVC INVERT

NOTES:

- 1. CONCRETE TOT TIE NEATLY INTO ALL EXISTING CONCRETE SLABS
- 2. REFER HYDRAULICS FOR NEW WATER MAIN
- 3. REFER ELECTRICAL FOR NEW ELECTRICAL LINE
- 4. REFER STRUCTURAL DRAWINGS FOR CONCRETE REQUIREMENTS



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				1	····	l		B. LANGTREE RPEQ 11932			
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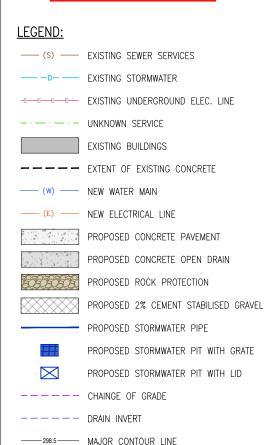


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EQL CHARTERS TOWERS DEPOT
7 NEW QUEEN ROAD, CHARTERS TOWER
LAYOUT PLAN





---- 298.4--- MINOR CONTOUR LINE

EROSION & SEDIMENT CONTROL:

DURING ENTIRE CONSTRUCTION.

TMR REQUIREMENTS.

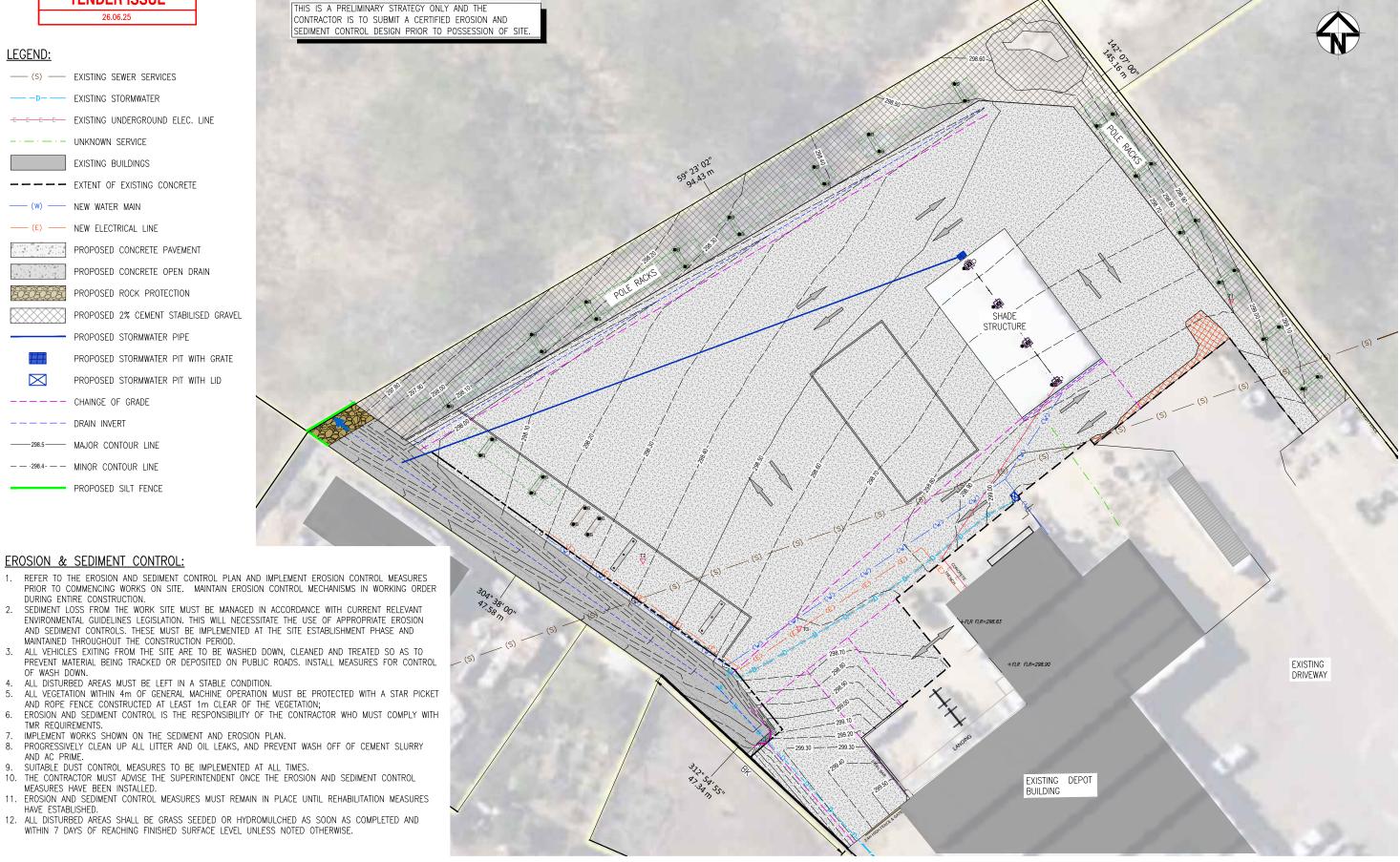
MEASURES HAVE BEEN INSTALLED.

AND AC PRIME

PROPOSED SILT FENCE

MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

DESCRIPTION



LAYOUT PLAN SCALE 1:200 @ A1

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NS					VERT. DAT	тим	AHI	D	
VISIO					DRG. FILE			DATE	COPYRIGHT © These designs and drawings
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EQL CHARTERS TOWERS DEPOT 7 NEW QUEEN ROAD. CHARTERS TOWER EROSION AND SEDIMENT CONTROL PLAN

ENERGY QUEENSLAND LIMITED

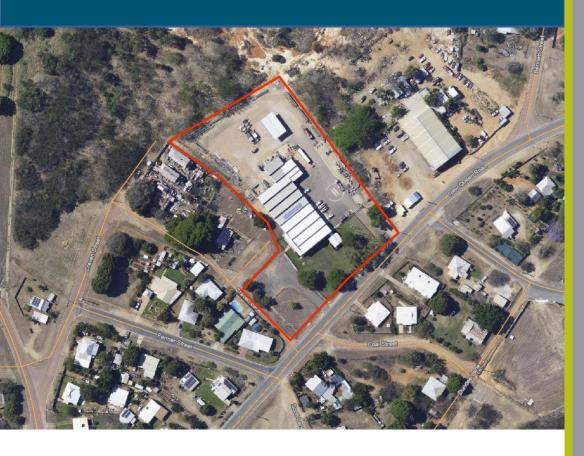
AS SHOWN SCALE SERIES SHEET REVISION 1394_C003 DRG No

No. BY DATE Document Set ID: 5112176

Version: 1, Version Date: 15/09/2025



7 NEW QUEEN ROAD, CHARTERS TOWER



ENGINEERING SERVICES REPORT

Energy Queensland Limited

LANGTREE CONSULTING

Project No.: 1394

Reference No.: R-RM0026

Date: 10/09/2025

Controlled Copy No.: 1

Revisions: B

Revision Record:

Rev	Review Date			Checked	Approved	
Α	16/07/2025	For confirmation of details	Rea Maglaya	Brett Langtree	Brett Langtree	
В	10/09/2025	Attached appendices	Rea Maglaya	Aidan Reinaudo	Brett Langtree	

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	EXISTING CONDITIONS	. 1
2.1	Site Zoning	2
2.2	Flood Hazard Overlay	2
3.0	PROPOSED DEVELOPMENT	:
4.0	EARTHWORKS	;
5.0	STORMWATER MANAGEMENT	
	VEHICLE MOVEMENT	

APPENDICES

APPENDIX A – Development Plans

APPENDIX B – Swept Paths

1.0 INTRODUCTION

This report has been prepared for the proposed at 7 New Queen Road, charters Towers also known as Lot 1 MPH21569. Please note that this report does not include water and sewer infrastructure assessment.

2.0 EXISTING CONDITIONS

The proposed development is approximately 550m from Charters Towers CBD. It is located at 7 New Queen Road also known as Lot 1 MPH21569. Currently, the subject site is an operating depot with an existing building, driveway and amenities (i.e washbay).

The subject site has an approximate total area of 1.4ha and is bounded by New Queen Road on its South, Industrial Lots on its North and East and Residential Lots on its west.

Refer to Figure 1 for the site locality.



Figure 1. Site Locality (Source: Queensland Globe)

2.1 SITE ZONING

The subject site is under the Charters Towers Regional Council and is zoned as Industry. Refer to **Figure 2** for Charters Towers zoning map.

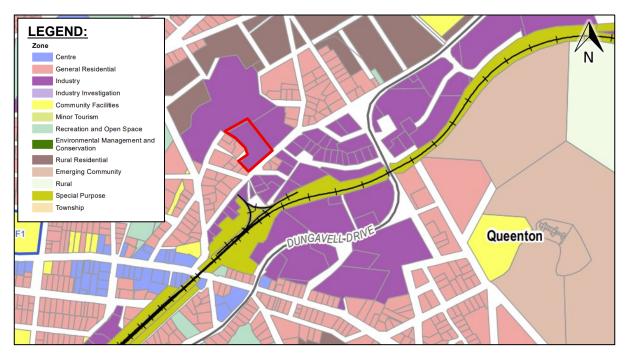


Figure 2. Zoning Map (Source: Charters Towers Regional Town Plan- Zone Map)

2.2 FLOOD HAZARD OVERLAY

As shown in Figure 3, the subject site is not affected by the flood hazard overlay.

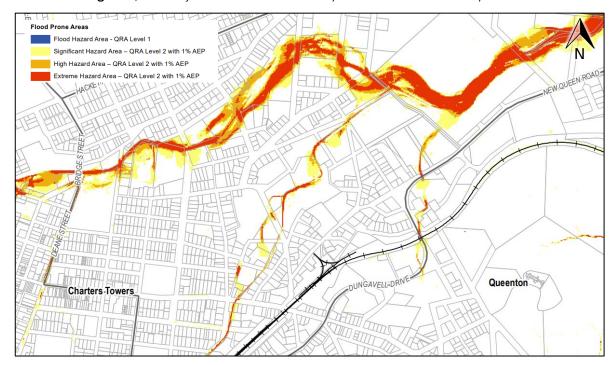


Figure 3. Flood Hazard Overlay Map (Source: Charters Towers Regional Town Plan-Flood Hazard Overlay Map)

3.0 PROPOSED DEVELOPMENT

The proposed development only take place on the northern part of the subject site. Amenities at the southern part of the subject site are retained (i.e Depot Building, driveway). The proposed development consists of the extension of the concrete area in the entire northern part of the subject site.

Refer to Figure 4 for the proposed development layout plan and is attached to Appendix A.



Figure 4. Proposed Development (Source: Clarke and Prince)

4.0 **EARTHWORKS**

Development works code A05.2 states that "the extent of filling or excavation does not exceed 40% of the site area or 500m², whichever is lesser.

The subject site's total area is 14,000m² (1.4ha) and the proposed development area of works is approximately 4,224m², resulting in approximately 30% of the subject site's area. Although the area of works does not exceed 40% of the subject site area, the area of works exceeds the 500m² and as such triggers the development code A05.2. Even though the filling/excavation area exceeds 500m², this is predominantly just regrading the site and the drain. The major cut is within the drain.

The total cut volume in the proposed development is 284m³ with the deepest excavation at 0.7m deep.

The total fill volume is 242m³ with the highest fill at approximately 0.4m high. Refer to drawing

1394 C004 for cut and fill plan.

In conclusion, the proposed development does not trigger development code P05 except for A05.2

mentioned above.

5.0 STORMWATER MANAGEMENT

Currently, stormwater runoff from the subject site falls from the south to the northwest corner of the

subject site and discharges to the north undeveloped state land, to St George Creek and to Mosman

Creek on the Northeast. The overall catchment to Georger Creek is not proposed to change, however,

the fraction impervious will be increased by approximately 40% and is expected to increase the peak

flow at the northwest corner discharge point. Assessment shows that St George Creek has significant

catchment area and the increase in impervious area and the increase in peak flow is not anticipated to

significantly worsen any upstream and adjacent areas.

The current discharge point of the subject site is along the northwest corner and it its proposed to be

retained with a proposed new rock protection. Stormwater runoff along the proposed development is

all directed to the open drain at the west of the subject site and discharges to the northwest corner.

Stormwater runoff from roof water all discharge to the proposed concrete open drain.

In conclusion, the proposed development does not trigger development code P04.

Refer to development technical memo for further details on the stormwater existing and proposed

regime.

6.0 **VEHICLE MOVEMENT**

A vehicle swept paths for a semi-trailer and a heavy rigid vehicle have been completed and is shown

in drawings 1394_SK01 to 1394_SK04 attached in Appendix B. Turning paths shown that a HRV and a

semi-trailer have adequate turning paths and clearances. As such, the development does not trigger

development code PO11.

R-RM0017 | 10 SEPTEMBER 2025

LANGTREE CONSULTING

APPENDIX A

PROPOSED DEVELOPMENT

R-RM0017 | 10 SEPTEMBER 2025 Document Set ID: 5112176 Version: 1, Version Date: 15/09/2025



ENERGY QUEENSLAND LIMITED CHARTERS TOWERS DEPOT UPGRADE YARD SURFACE AND FENCING UPGRADE SOLUTIONS

LOT & PLAN 1/MPH21569, CHARTERS TOWERS. QLD. 4820.

DRAWING LIST

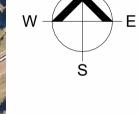
1.ARCHITECTURAL - CLARKE AND PRINCE ARCHITECTS

1623d1-SD A0.00 COVER SHEET & LOCALITY PLAN

1623d1-SD A1.01 SITE PLANS - EXISTING & DEMOLITION

1623d1-SD A1.02 SITE PLANS - PROPOSED





1 LOCALITY PLAN SCALE - 1:2000

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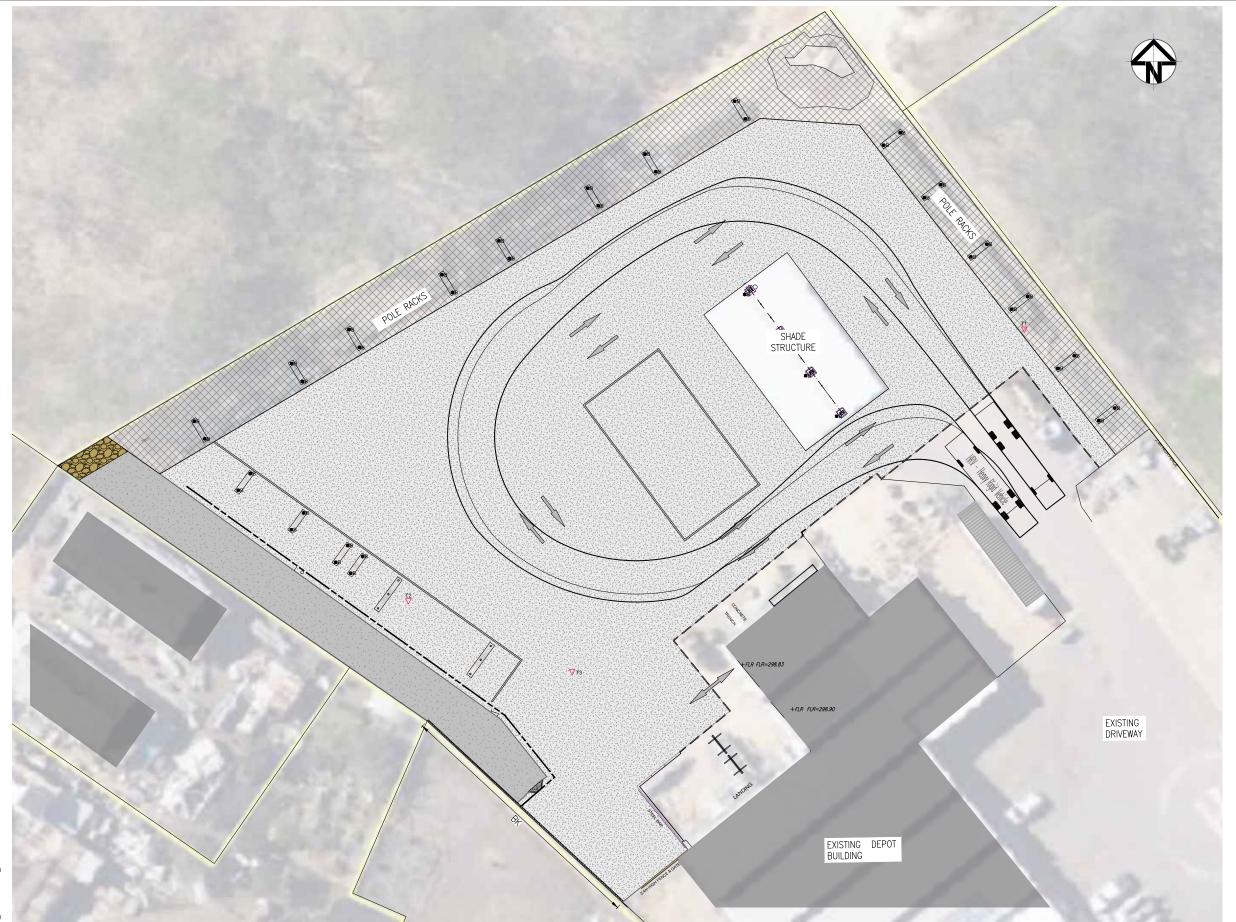
APPENDIX B

SWEPT PATHS

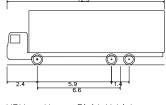
R-RM0017 | 10 SEPTEMBER 2025 Document Set ID: 5112176 Version: 1, Version Date: 15/09/2025



16.07.25



LAYOUT PLAN SCALE 1:200 @ A1



HRV — Heavy Rigid Vehicle Overall Length Overall Width Overall Body Height Min Body Ground Clearance Track Width Lock—to—lock time Curb to Curb Turning Radius

B BL 16.07.25 TENDER ISSUE A BL 11.06.25 PRELIMINARY ISSUE

DESCRIPTION

HORIZ. DATUM

VERT. DATUM

DRG. FILE

DRAWN

MGA

AHD

R. MAGLAYA

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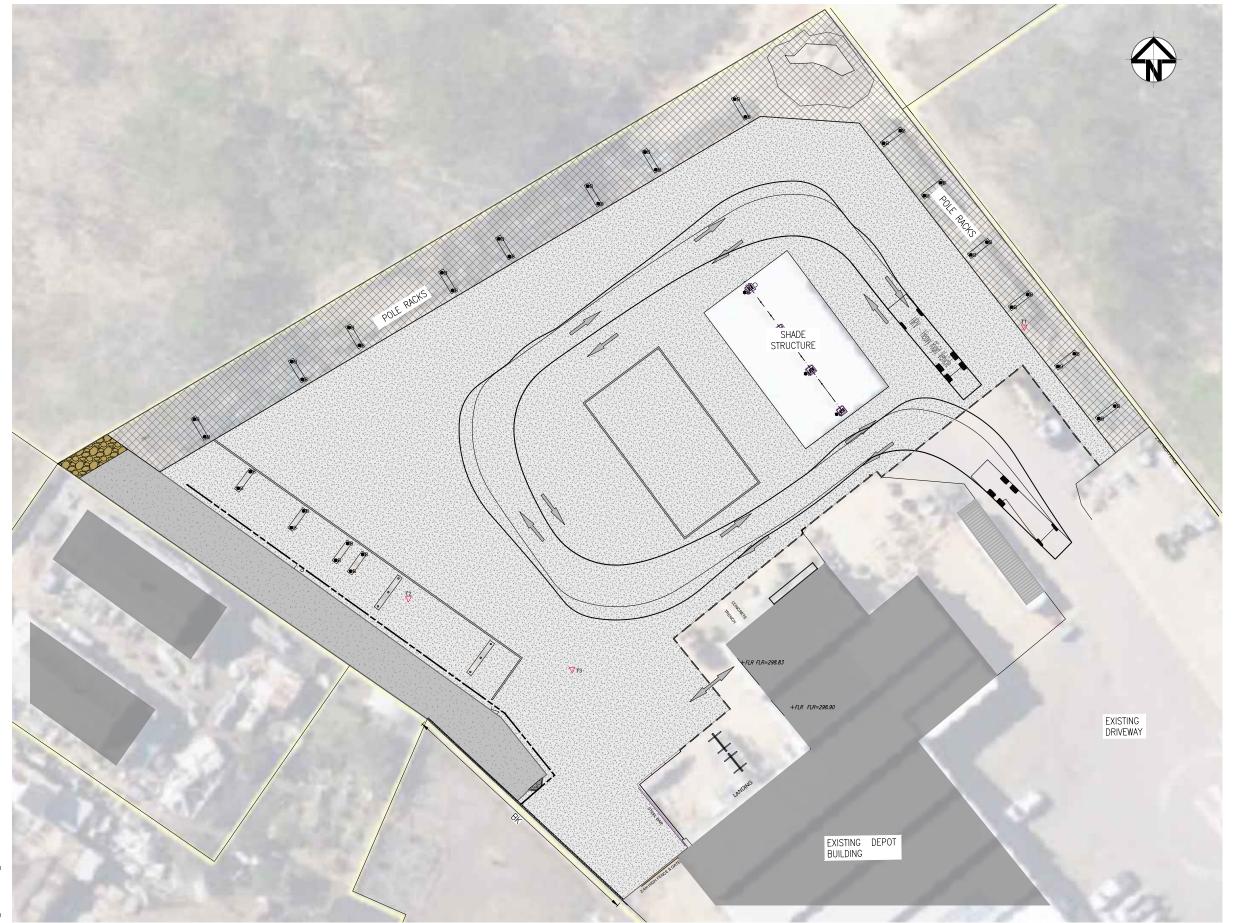


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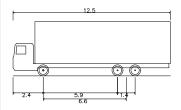
ENERGY QUEENSLAND LIMITED			AS SHOWN					
FOI CHARTERS TOWERS DEPOT	SHEET	SERIES						
7 NEW QUEEN ROAD, CHARTERS TOWER	REVISION	А	В					
HEAVY RIGID VEHICLE LEFT TURN IN	DRG No.	a. 1394_SK01						



16.07.25



LAYOUT PLAN SCALE 1:200 @ A1



HRV — Heavy Rigid Vehicle Overall Length Overall Width Overall Body Height Min Body Ground Clearance Track Width Lock—to—lock time Curb to Curb Turning Radius

B BL 16.07.25 TENDER ISSUE

A BL 11.06.25 PRELIMINARY ISSUE

DESCRIPTION

CERTIFICATION

MGA

AHD

A.REINAUDO 03.04.25

03.04.25

R. MAGLAYA

HORIZ. DATUM VERT. DATUM

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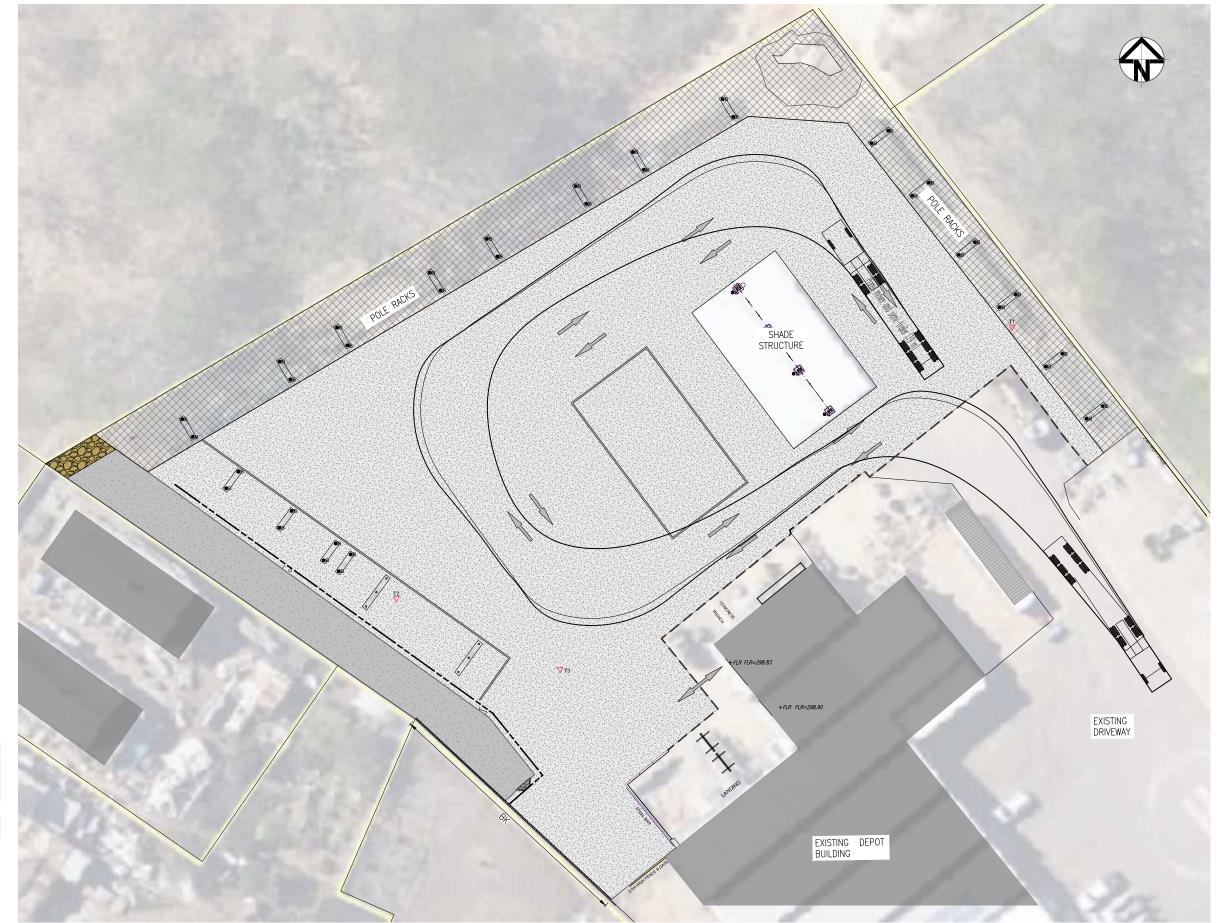
ENERGY QUEENSLAND LIMITED

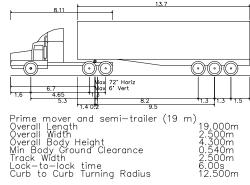
EQL CHARTERS TOWERS DEPOT 7 NEW QUEEN ROAD, CHARTERS TOWER HEAVY RIGID VEHICLE THROUGH/ RIGHT TURN OUT

SCALE	AS SHOWN					
SHEET	SERIES					
REVISION	Α	В				
DRG No.	1394_SK02					

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16.07.25





LAYOUT PLAN SCALE 1:200 @ A1

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CERTIFICATION

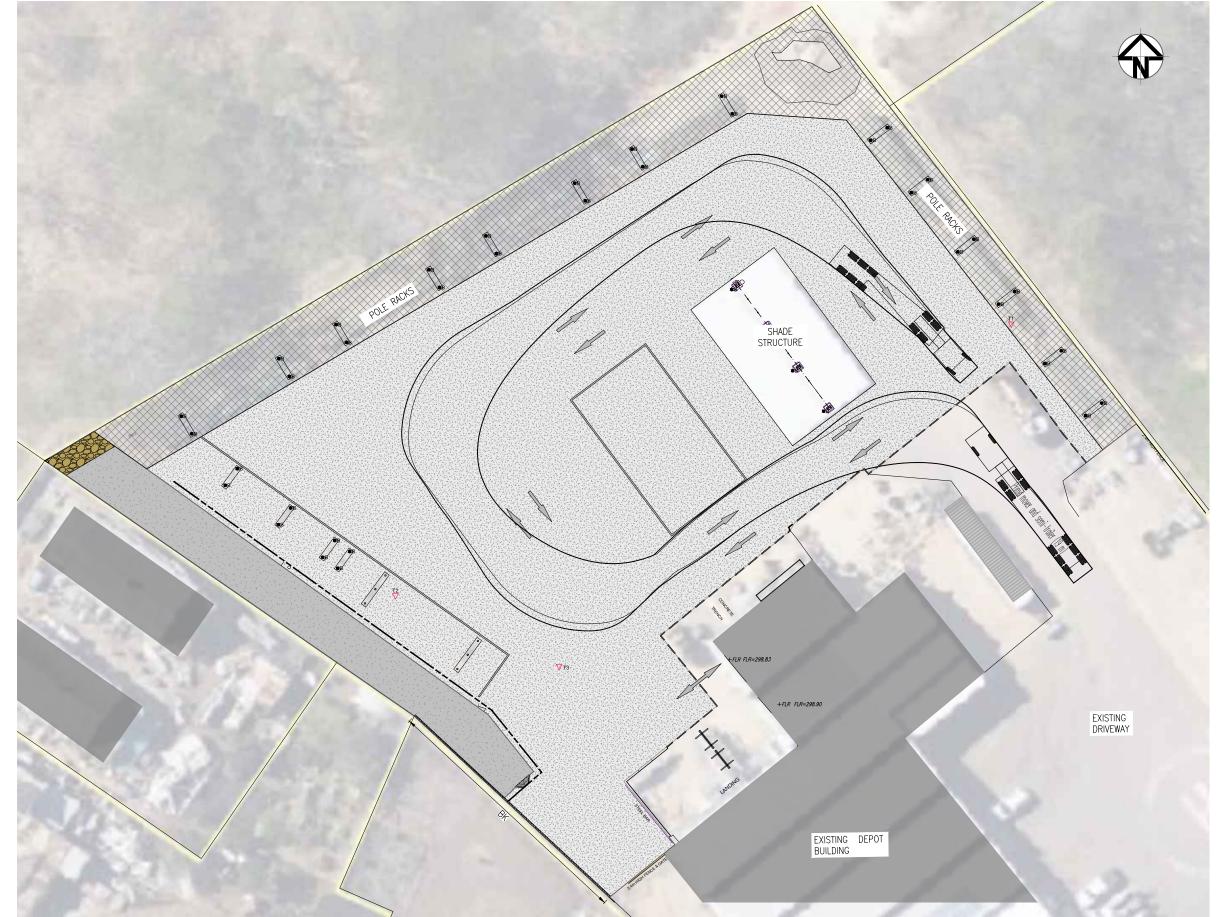


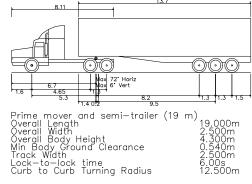
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То	MAL Engineers	Pages	11
CC			
Subject	Stormwater Assessment for 7 New Queen Road, Charters Towers		
From	Brett Langtree		
File/Ref No.	TM-RM0018/1394	Date	16/07/2025

1.0 INTRODUCTION

Langtree Consulting has been engaged on behalf of MAL Engineers to undertake Stormwater Drainage and Quality Management Reports for the proposed development located at 7 New Queen Road, charters Towers also known as Lot 1 MPH21569.

2.0 EXISTING CONDITION

The proposed development is approximately 550m from Charters Towers CBD. It is located at 7 New Queen Road also known as Lot 1 MPH21569. Currently, the subject site is an operating depot with an existing building, driveway and amenities (i.e washbay).

The subject site has an approximate total area of 1.4ha and is bounded by New Queen Road on its South, Industrial Lots on its North and East and Residential Lots on its west.

According to the Charters Towers Plan for Trunk Stormwater Infrastructure-LGIP 4.1, there is an existing concrete lined drain at north of Lot 18 SP108016, north lot of the subject site and based on Queensland watercourse, this drain is referred to as St George Creek.

Refer to Figure 1 and Figure 2 for the site locality and existing drain location.



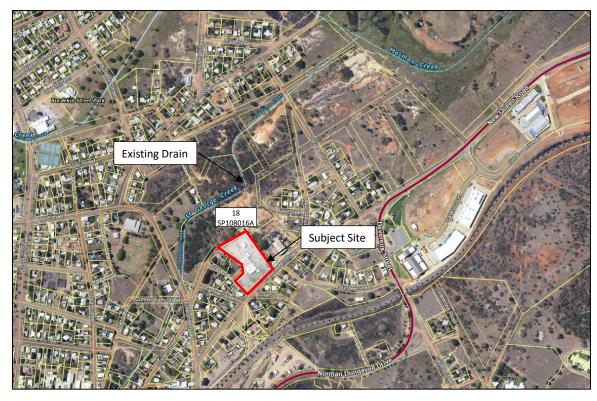


Figure 1. Site Locality (Source. Queensland Globe)

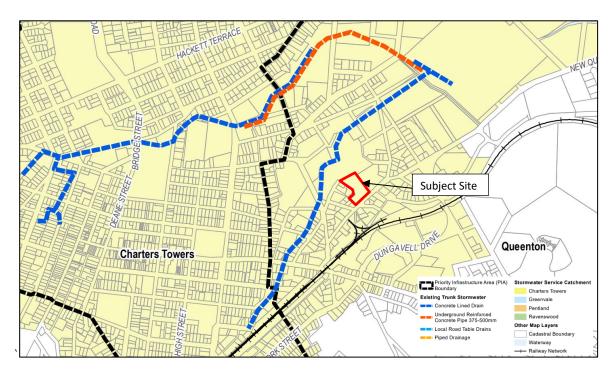


Figure 2. Existing Stormwater infrastructure (Source. LGIP 4.1 Charters Towers)



3.0 DEVELOPMENT PROPOSAL

The proposed development only take place on the northern part of the subject site. Amenities at the southern part of the subject site are retained (i.e Depot Building, driveway). The proposed development consists of the extension of the concrete area in the entire northern part of the subject site.

Refer to Figure 3 to for the proposed development layout.



Figure 3. Proposed Development (Source: Clarke and Prince)



4.0 STORMWATER ASSESSMENT

4.1 TOPOGRAPHY

Currently, stormwater runoff from the subject site falls from the south to the northwest corner of the subject site and discharges to the north undeveloped state land, to St George Creek and to Mosman Creek on the Northeast. Car park runoff falls towards the existing pit on the north of the carpark and discharges to the existing open drain on the northwest of the subject site.

Existing Depot building consists of downpipes on both sides (left and right), whereas runoffs from the roof buildings are discharging directly to the ground. Runoff from the driveway falls toward the south open area to the invert parallel to the northern boundary and discharges to the Northwest corner of the subject site.

There is an existing stormwater pipe running discharging to the open drain. The open drain discharges from southwest to northwest to the discharge point. Additionally, an open drain is also existing at the east of the subject site.

Refer to Figure 4 for the subject site topography and existing stormwater drain within the subject site.

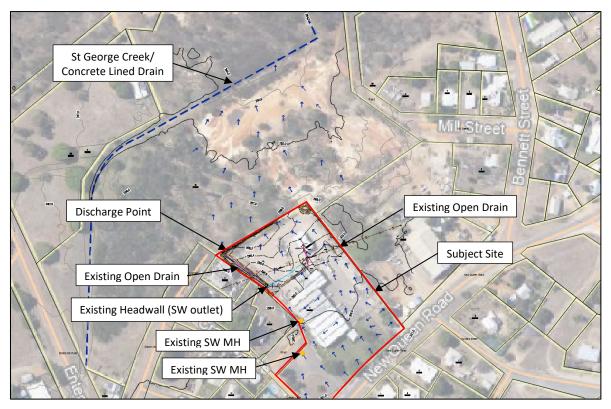


Figure 4. Site Topography and Existing Stormwater Drain within the Subject site.



4.2 METHODOLOGY

The hydrologic assessment of the proposed site has been analysed using the Rational Method. For thorough assessment, stormwater runoff from 1% AEP event for the pre and proposed development will be calculated. The guideline utilised for the calculation of the rational method is as per the Queensland Urban Drainage Manual (QUDM) 2017.

Qy = (Cy . tly . A) / 360

Where: Qy = peak flow rate (m3/s) for average recurrence interval (ARI) of "y' years

Cy = coefficient of discharge (dimensionless) for ARI of 'y' years

A = area of catchment (Hectares)

tly = average rainfall intensity (mm/h) for a design duration of 't' hours and an ARI of 'y' years

t = the nominal design storm duration as defined by the time of concentration

Steps adopted for the peak flow rate calculations have been summarised as follows:

- a) Analysis of flow paths based on available contours.
- b) Determination of the time of concentration (t_c) for flow paths in accordance with QUDM, 4.6.11.
- c) Adoption of the flow path with the longest time of concentration (t_c) for assessment.
- d) Determination of the runoff coefficients.
- e) Calculation of peak flow rate as QUDM, 4.3 (Rational Method).

TM-RM0018 | 16 JULY 2025 Document Set ID: 5112176



4.3 PRE-DEVELOPMENT STORMWATER RUNOFF

For the purpose of this assessment, three (3) catchment areas have been considered for the predevelopment scenario. Refer to **Figure 5** for the pre-development catchment areas and **Table 1** for pre-development peak flow summary. Pre-development calculations are attached to **Appendix B**.

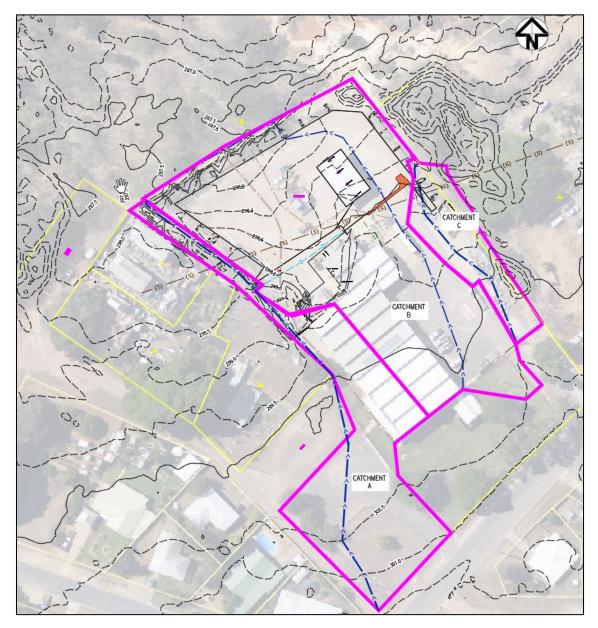


Figure 5. Pre-development Catchment Area.

Table 1. Pre-development peak flow summary at 1% AEP.

Catchment Area	Total Area, m²	Impervious Area, m²	Fraction impervious	Peak Flow rate, (m³/s)
А	3,627.548	1,852.002	0.51	0.170
В	7,410.864	2999.426	0.40	0.299
С	1136.436	656.455	0.58	0.082



4.4 POST-DEVELOPMENT STORMWATER RUNOFF

As mentioned in Section 3.0, the proposed development only take place on the northern part of the subject site. The proposed development includes concreting of the entire northern part of the subject site.

In the post development scenario, since the entire norther part will be concrete, the fraction of impervious in catchment A increases to 0.66, in catchment B to 0.85 and catchment C remains the same.

The proposed development site levels are shown in **Figure 6** and is attached to **Appendix C**. Catchment Areas considered for the post development scenario are shown in **Figure 7**.

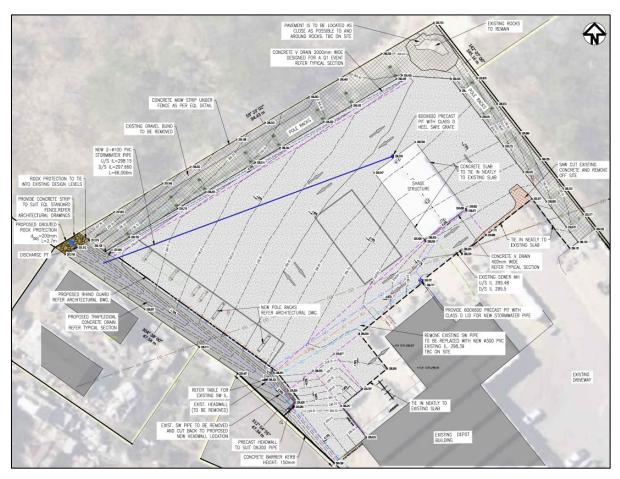


Figure 6. Proposed new site levels



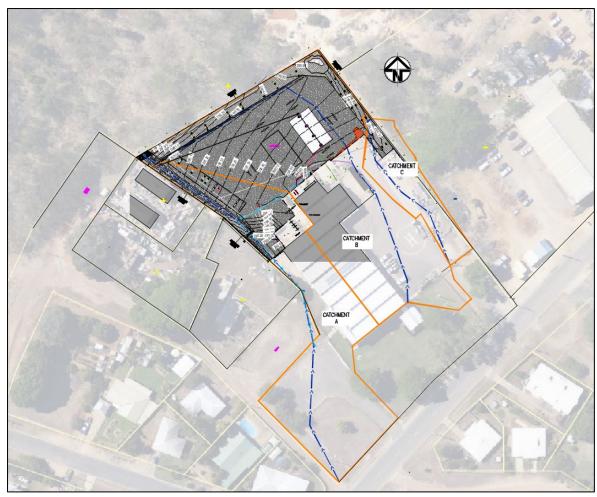


Figure 7. Post development Catchment Areas

Refer to **Appendix D** for the post development stormwater calculations and **Table 2** for post-development peak flow summary.

Table 2. Post development peak flow rate at 1% AEP.

Catchment Area	Total Area, m²	Impervious Area, m²	Fraction Impervious	Peak Flow rate, (m³/s)
А	4,452.957	2,936.743	0.66	0.228
В	6,456.547	5,512.568	0.85	0.355
С	1136.436	656.455	0.58	0.082



4.5 STORMWATER SUMMARY

Comparing the pre and post development stormwater for the catchment, the change in flow rate at the catchments event are shown in **Table 3**.

Table 3. Pre and Post development flow comparison at 1% AEP.

Catalyment Area	Pre-Development	Post Development	Change in Flow	
Catchment Area Peak Flow rate (m³/s)		Peak Flow rate (m³/s)	(m³/s)	
А	0.170	0.228	+0.058	
В	0.299	0.355	+0.056	
С	0.082	0.082	0.00	

As shown in **Table 3**, the peak flow at Catchment A and Catchment B increases by 0.058m³/s (58L/s) and 0.056m³/s (56L/s) respectively. As both are draining towards the discharge point at the northwest portion of the lot, the total increase in flow draining at the northwest portion of the lot is 0.114m³/s (114L/s). Note that all the runoffs discharging to north-west portion of the subject site are discharging to the undeveloped state land on the north, to the existing drain (St. George Creek) and to the Mosman Creek on the Northeast. As St. George Creek has significant catchment area, the increase in flow rate is negligible. As such, the proposed development has no impact to the existing stormwater infrastructure and adjacent properties.

4.6 DRAIN CAPACITY

As shown in **Figure 6**, the proposed development includes a trapezoidal drain at the western boundary of the subject site. The concrete open drain on the western boundary of the subject site is proposed to be a trapezoidal drain with a total width of 3.4m, channel depth of 0.3m wide side slope at 1:4. dimensions and a total capacity of 0.924m³/s. As such, the proposed trapezoidal drain has sufficient capacity to collect and discharge runoff from the subject site. Calculations for the drain capacity is attached in **Appendix E**.



4.7 ROCK PROTECTION CAPACITY

A rock protection is proposed at outlet of the trapezoidal concrete drain. The proposed rock protection is sized in accordance with Catchment and creeks-rock sizing for batter Chute outlets. The recommended dimensions are shown in Table 1 and Table 2 (shown as Table 4 and Table 5).

Table 4. Mean rock size, d_{50} (mm) for batter chute outlet protection.

Tabl	e 1 – Mea	ın rock size	, d ₅₀ (mm) f	or batter cl	hute outlet	protection	[1]
Depth of		Flow velocity at base of Chute (m/s)					
approach flow (mm) [2]	2.0	3.0	4.0	5.0	6.0	7.0	8.0
50	100	100	100	200	200	200	300
100	100	100	200	200	300	300	400
200	100	200	300	300	400	[3]	[3]
300	200	200	300	400	[3]	[3]	[3]

^[1] For exit flow velocities not exceeding 1.5 m/s, and where growing conditions allow, loose 100 mm rock may be replaced with 75 mm rock stabilised with a good cover of grass.

^[3] Consider using 400 mm grouted rock pad, or a rock-filled mattress outlet.

Table 2 -	Recommer	nded length	, L (m) of r	ock pad for	batter chu	te outlet pr	otection
Depth of		F	low velocit	y at base of	f Chute (m/	s)	
approach flow (mm)	2.0	3.0	4.0	5.0	6.0	7.0	8.0
50	1.0	1.5	2.1	2.6	3.1	3.6	4.2
100	1.3	2.0	2.7	3.4	4.1	4.8	5.5
200	2.1	2.7	3.4	4.3	5.2	6.1	7.0
300	2.7	3.6	4.3	4.8	5.8	6.8	7.9

The velocity at the trapezoidal concrete drain outlet is approximately 3m/s with an approximate flow depth of 200mm. As such, the recommended mean rock size, d_{50} is 200mm. Additionally, the recommended length of rock pad is 2.7m.

^[2] This is the flow depth at the base of the chute as it approaches the outlet structure. The flow depth is based on the maximum depth, <u>not</u> the average flow depth.



5.0 SUMMARY

In conclusion, this technical memorandum provides the stormwater assessment for the proposed development on 7 New Queen Road, charters Towers also known as Lot 1 MPH21569. The findings are as follows:

- The existing subjects site run-off falls towards the northwest portion of the subject site to the undeveloped state land on the North and discharges towards St. George creek on the North to Mosman Creek on the Northeast.
- The fraction of impervious in the pre-development scenario 0.42 and increases to 0.87 in the post development scenario.
- The peak flow rate from pre-development scenario to post development scenario increases by 0.102m³/s (102L/s).
- Similarly, in the post-development scenario, the runoff falls toward the northwest portion of the land to the undeveloped state land, and discharges to St George Creek and to Mosman Creek. As St. George Creek has significant catchment area, the increase in peak flow rate developed by the proposed development is negligible and as such will not impact the existing stormwater infrastructure and adjacent properties.
- The trapezoidal concrete drain at the western boundary has sufficient capacity to collect and discharge runoff from the subject site.
- A rock protection is proposed at the trapezoidal drain outlet with 200mm mean rock size d_{50} and 2.7m length.



APPENDIX A

PROPOSED DEVELOPMENT



ENERGY QUEENSLAND LIMITED CHARTERS TOWERS DEPOT UPGRADE YARD SURFACE AND FENCING UPGRADE SOLUTIONS

LOT & PLAN 1/MPH21569, CHARTERS TOWERS. QLD. 4820.

DRAWING LIST

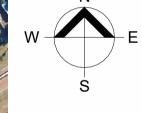
1.ARCHITECTURAL - CLARKE AND PRINCE ARCHITECTS

1623d1-SD A0.00 COVER SHEET & LOCALITY PLAN

1623d1-SD A1.01 SITE PLANS - EXISTING & DEMOLITION

1623d1-SD A1.02 SITE PLANS - PROPOSED





1 LOCALITY PLAN
SCALE - 1:2000

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AMENDMENTS

DATE
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P1 SD DRAFT
24/03/2025
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APPENDIX B

STORMWATER ASSESSMENT-PRE-DEVELOPMENT

(RATIONAL METHOD-PRE DEVELOPMENT)



Project Name: 7 New Queen Road, Charters Towers **Project Location:** Charters Towers (1) Guidelines CATCHMENT A Queensland Urban Drainage Manual (QUDM) 2017 Input Bureau of Meteorology (BOM) Output (2) Time of Concentration (t_c) - refer QUDM 2017, Section 4.6.8 a) Overland Flow (Friend's equation) $t = (107 \text{ n L}^{0.333}) / S^{0.2}$ where t = overland sheet flow travel time (min) L = overland sheet flow path length (m) n = Horton's surface roughness factor S = slope of surface (%) L (m) = U/S RL (m) = 301.43 D/S RL(m) =300.50 S (%): 3.23 - refer QUDM 2017, Figure 4.4, assumed bare soil surface 0.028 t (mins) = 7.1 L (m) = U/S RL (m) = 300.50 D/S RL (m) = 300.22 S (%): - refer QUDM 2017, Figure 4.4, assumed paved surface t (mins) = 5.5 b) Channel flow Flow distance (m) = 24.487 Upstream level (m) = 299.53 Downstrem level (m) = 299.26 Fall of channel (m) = - refer QUDM 2017. Figure 4.5 0.27 - refer QUDM 2017. Figure 4.5 (Flow travel times n pipes and channels) Flow time in channel (min) = - refer QUDM 2017, Technical notes for Figure 4.5 Multiplier, Δ = t_c (mins) = 1 b) Channel flow- Pipe Flow distance (m) = Upstream level (m) = 299.24 Downstrem level (m) = 298.36 - refer QUDM 2017, Figure 4.5 Fall of channel (m) 0.88 Flow time in channel (min) = - refer QUDM 2017, Figure 4.5 (Flow travel times n pipes and channels) Multiplier, Δ = - refer QUDM 2017. Technical notes for Figure 4.5 t_c (mins) = b) Channel flow-Open Drain Flow distance (m) = 51.569 Upstream level (m) = 298.36 Downstrem level (m) = 297.432 - refer QUDM 2017, Figure 4.5 Fall of channel (m) = 0.93 Flow time in channel (min) = - refer QUDM 2017, Figure 4.5 (Flow travel times n pipes and channels) Multiplier, Δ = - refer QUDM 2017, Technical notes for Figure 4.5 t_c (mins) = 3 c) Total Tc t (mins) = 17.6 (3) Design Flow (Q) $Q_y = 0.00278 \times C_y \times {}^t I_y \times A$ - refer QUDM 2017, Section 4.3 where Q_y = peak flow rate (m³/s) for annual exceedence probability (AEP) of 1 in 'y' years C_y = coefficient of discharge (dimensionless) for AEP of 1 in 'y' years A = area of catchment (ha) $^{t}l_{\gamma}=$ average rainfall intensity (mm/h) for a design duration of 't' hours and an AEP of 1 in 'y' years t = the nominal design storm duration as defined by the time of concentration (t_c) Design ARI, y = 100 A (ha) = 0.3627548 3627.548 m2 Catchment Area (m2) = 3627.548 Impervious Area (m2) = 1852.002 t_c (mins) = 17.6 Fraction Impervious = Rainfall intensity, I (mm/hr) ¹I₁₀ (mm/hr) = - refer QUDM 2017. Table 4.5.1 Fraction impervious, f_i = 0.51 - refer QUDM 2017. Table 4.5.2 Frequency Factor, F = 1.20 - refer QUDM 2017, Table 4.5.3 & 4.5.4 0.80 0.96 $Q(m^3/s) = 0.170$

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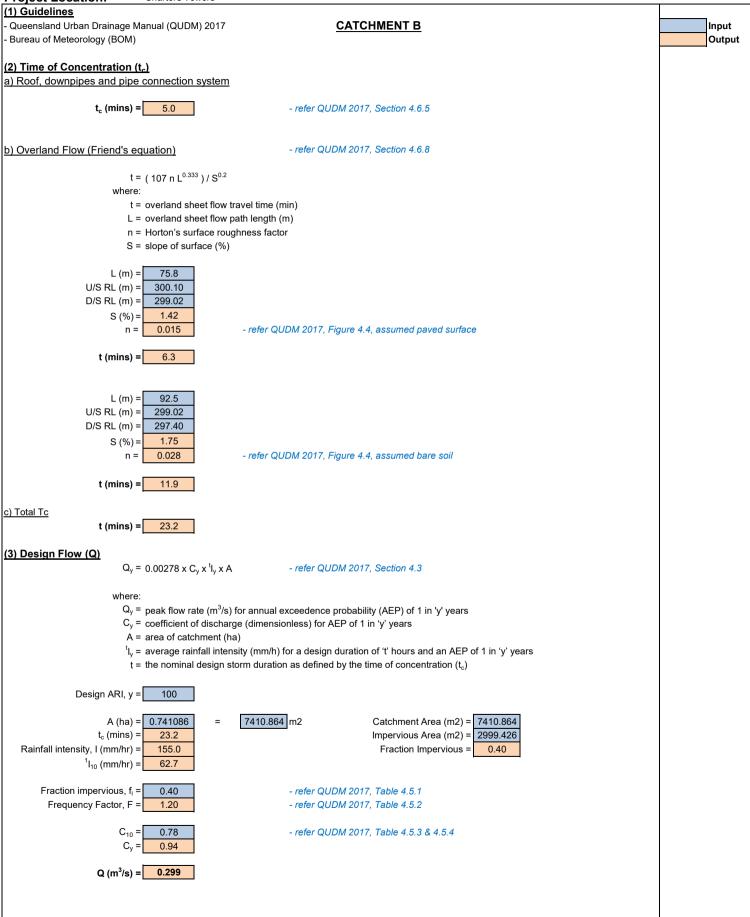
1394 Stormwater Assessment

(RATIONAL METHOD-PRE DEVELOPMENT)



Project Name: 7 New Queen Road, Charters Towers

Project Location: Charters Towers



(RATIONAL METHOD-PRE DEVELOPMENT)



Project Name: 7 New Queen Road, Charters Towers

Project Location: Charters Towers

(1) Guidelines **CATCHMENT C** Queensland Urban Drainage Manual (QUDM) 2017 Input Bureau of Meteorology (BOM) Output (2) Time of Concentration (t_c) b) Overland Flow (Friend's equation) - refer QUDM 2017, Section 4.6.8 $t = (107 \text{ n L}^{0.333}) / S^{0.2}$ where: t = overland sheet flow travel time (min) L = overland sheet flow path length (m) n = Horton's surface roughness factor S = slope of surface (%) L(m) =88.4 U/S RL (m) = 300.50 D/S RL (m) = 298.70 S (%)= 0.015 - refer QUDM 2017, Figure 4.4, assumed paved surface 6.2 t (mins) = c) Total Tc t (mins) = 6.2 (3) Design Flow (Q) $Q_y = 0.00278 \times C_y \times {}^t I_y \times A$ - refer QUDM 2017, Section 4.3 where: Q_v = peak flow rate (m³/s) for annual exceedence probability (AEP) of 1 in 'y' years C_v = coefficient of discharge (dimensionless) for AEP of 1 in 'y' years A = area of catchment (ha) ^tl_v = average rainfall intensity (mm/h) for a design duration of 't' hours and an AEP of 1 in 'y' years t = the nominal design storm duration as defined by the time of concentration (t_c) Design ARI, y = 100 A (ha) = 0.113644 1136.436 m2 Catchment Area (m2) = 1136.436 t_c (mins) = Impervious Area (m2) = 656.455 6.2 Rainfall intensity, I (mm/hr) = 263.9 Fraction Impervious = 0.58 $^{1}I_{10}$ (mm/hr) = 62.7 Fraction impervious, f_i = 0.58 - refer QUDM 2017, Table 4.5.1 Frequency Factor, F = 1.20 - refer QUDM 2017, Table 4.5.2 $C_{10} =$ 0.82 - refer QUDM 2017, Table 4.5.3 & 4.5.4 0.98 $Q (m^3/s) = 0.082$



APPENDIX C

PROPOSED LAYOUT PLAN

TENDER ISSUE

16.07.25

LEGEND:

— (S) — EXISTING SEWER SERVICES

-- D- EXISTING STORMWATER

EXISTING UNDERGROUND ELEC. LINE

EXISTING BUILDINGS

---- EXTENT OF EXISTING CONCRETE

— (W) —— NEW WATER MAIN

—— (E) —— NEW ELECTRICAL LINE

PROPOSED CONCRETE PAVEMENT

PROPOSED CONCRETE OPEN DRAIN

PROPOSED ROCK PROTECTION

PROPOSED TYPE 2.3 CEMENT TREATED

BASE (3%)

- PROPOSED STORMWATER PIPE

PROPOSED STORMWATER PIT WITH GRATE

PROPOSED STORMWATER PIT WITH LID

---- CHAINGE OF GRADE

------ PROPOSED GUARD RAIL

DRAIN INVERT

----298.5 MAJOR CONTOUR LINE

— — ·298.4- — — MINOR CONTOUR LINE

×298.90 PROPOSED RL

1.00% SLOPE

EXISTIN	IG SW INVE	RT LEVELS (TBC)
Point #	Elevation	Description
1	298.390	300 PVC INVERT
2	298.360	375 PVC INVERT
3	298.360	300 PVC INVERT
4	298.330	350 PVC INVERT

NOTES:

1. CONCRETE TOT TIE NEATLY INTO ALL EXISTING CONCRETE

DESCRIPTION

- 2. REFER HYDRAULICS FOR NEW WATER MAIN
- 3. REFER ELECTRICAL FOR NEW ELECTRICAL LINE
- 4. REFER STRUCTURAL DRAWINGS FOR CONCRETE REQUIREMENTS



B. LWGTREE RPEQ 11932

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AHD

R. MAGLAYA

DRAWN

19.05.25

19.05.25



brett@langtreeconsulting.com.au

0400 699 979

EQL CHARTERS TOWERS DEPOT 7 NEW QUEEN ROAD, CHARTERS TOWER LAYOUT PLAN

ENERGY QUEENSLAND LIMITED

SCALE AS SHOWN

SHEET SERIES

REVISION A B DRG No. 1394_C002

Document Set ID: 5112176

Version: 1, Version Date: 15/09/2025



APPENDIX D

STORMWATER ASSESSMENT POST DEVELOPMENT

(RATIONAL METHOD-POST DEVELOPMENT)



Project Name: 7 New Queen Road, Charters Towers **Project Location:** Charters Towers (1) Guidelines CATCHMENT A Queensland Urban Drainage Manual (QUDM) 2017 Input Bureau of Meteorology (BOM) Output (2) Time of Concentration (t_c) - refer QUDM 2017, Section 4.6.8 a) Overland Flow (Friend's equation) $t = (107 \text{ n L}^{0.333}) / S^{0.2}$ where t = overland sheet flow travel time (min) L = overland sheet flow path length (m) n = Horton's surface roughness factor S = slope of surface (%) L (m) = U/S RL (m) = 301.43 D/S RL(m) =300.50 S (%): 3.23 - refer QUDM 2017, Figure 4.4, assumed bare soil surface 0.028 t (mins) = 7.1 L (m) = U/S RL (m) = 300.50 D/S RL (m) = 300.22 S (%): - refer QUDM 2017, Figure 4.4, assumed paved surface t (mins) = 5.5 b) Channel flow (Pipe) Flow distance (m) = 24.487 Upstream level (m) = 299.53 Downstrem level (m) = 299.26 Fall of channel (m) = - refer QUDM 2017. Figure 4.5 0.27 - refer QUDM 2017. Figure 4.5 (Flow travel times n pipes and channels) Flow time in channel (min) = - refer QUDM 2017, Technical notes for Figure 4.5 Multiplier, Δ = t_c (mins) = 1 c) Channel flow (Pipe) Flow distance (m) = 299.24 Upstream level (m) = Downstrem level (m) = 298.527 Fall of channel (m) - refer QUDM 2017, Figure 4.5 0.71 Flow time in channel (min) = - refer QUDM 2017, Figure 4.5 (Flow travel times n pipies and channels) Multiplier, Δ = - refer QUDM 2017. Technical notes for Figure 4.5 t_c (mins) = d) Channel flow (Open drain) Flow distance (m) = 52.383 Upstream level (m) = 298.53 Downstrem level (m) = 297.645 - refer QUDM 2017, Figure 4.5 Fall of channel (m) = 0.88 Flow time in channel (min) = - refer QUDM 2017, Figure 4.5 (Flow travel times n pipies and channels) - refer QUDM 2017, Technical notes for Figure 4.5 t_c (mins) = 1 c) Total Tc t (mins) = 15.6 (3) Design Flow (Q) - refer QUDM 2017, Section 4.3 Q_y = 0.00278 x C_y x ^tl_y x A Q_y = peak flow rate (m³/s) for annual exceedence probability (AEP) of 1 in 'y' years C_y = coefficient of discharge (dimensionless) for AEP of 1 in 'y' years A = area of catchment (ha) ^tl_y = average rainfall intensity (mm/h) for a design duration of 't' hours and an AEP of 1 in 'y' years t = the nominal design storm duration as defined by the time of concentration (tc) Design ARI, y = 100 A (ha) = 0.4452957 4452.957 m2 Catchment Area (m2) = 4452.957 t_c (mins) = 15.6 Impervious Area (m2) = 2936.743 Rainfall intensity, I (mm/hr) Fraction Impervious = 184.4 ¹I₁₀ (mm/hr) : Fraction impervious, f: = 0.66 - refer QUDM 2017. Table 4.5.1 Frequency Factor, F = 1 20 - refer QUDM 2017. Table 4.5.2 - refer QUDM 2017, Table 4.5.3 & 4.5.4 0.83 1.00 $Q(m^3/s) = 0.228$

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1394 Stormwater Assessmen

(RATIONAL METHOD-POST DEVELOPMENT)



Project Name: 7 New Queen Road, Charters Towers

Project Location: Charters Towers (1) Guidelines **CATCHMENT B** Queensland Urban Drainage Manual (QUDM) 2017 Input Bureau of Meteorology (BOM) Output (2) Time of Concentration (t_c) a) Roof, downpipes and pipe connection system t_c (mins) = 5.0 - refer QUDM 2017 Section 4.6.5 - refer QUDM 2017, Section 4.6.8 b) Overland Flow (Friend's equation) $t = (107 \text{ n L}^{0.333}) / S^{0.2}$ where: t = overland sheet flow travel time (min) L = overland sheet flow path length (m) n = Horton's surface roughness factor S = slope of surface (%) 115.7 L(m) =U/S RL (m) =300.10 D/S RL (m) =298.26 S (%)= 1.59 0.015 - refer QUDM 2017, Figure 4.4, assumed paved surface t (mins) = c) Channel flow Flow distance (m) = 72.691 Upstream level (m) = 299.26 Downstrem level (m) = 297.568 Fall of channel (m) = - refer QUDM 2017, Figure 4.5 1 69 Flow time in channel (min) = - refer QUDM 2017, Figure 4.5 (Flow travel times n pipes and channels) - refer QUDM 2017, Technical notes for Figure 4.5 Multiplier, Δ = t_c (mins) = c) Total Tc t (mins) = (3) Design Flow (Q) $Q_v = 0.00278 \times C_v \times {}^t I_v \times A$ - refer QUDM 2017, Section 4.3 where: Q_y = peak flow rate (m³/s) for annual exceedence probability (AEP) of 1 in 'y' years C_y = coefficient of discharge (dimensionless) for AEP of 1 in 'y' years A = area of catchment (ha) ^tl_v = average rainfall intensity (mm/h) for a design duration of 't' hours and an AEP of 1 in 'y' years t = the nominal design storm duration as defined by the time of concentration (t_c) Design ARI, y = 100 A (ha) = 0.645655 6456.547 m2 Catchment Area (m2) = 6456.547 t_c (mins) = Impervious Area (m2) = 5512.568 13.1 Rainfall intensity, I (mm/hr) = Fraction Impervious = $^{1}I_{10}$ (mm/hr) = 62.7 Fraction impervious, f_i = - refer QUDM 2017, Table 4.5.1 Frequency Factor, F = 1.20 - refer QUDM 2017, Table 4.5.2 - refer QUDM 2017, Table 4.5.3 & 4.5.4 0.87 1.00 $Q (m^3/s) = 0.355$

(RATIONAL METHOD-POST DEVELOPMENT)



Proiect Name: 7 New Queen Road, Charters Towers

Project Location: Charters Towers

(1) Guidelines **CATCHMENT C** Queensland Urban Drainage Manual (QUDM) 2017 Input Bureau of Meteorology (BOM) Output (2) Time of Concentration (t_c) b) Overland Flow (Friend's equation) - refer QUDM 2017, Section 4.6.8 $t = (107 \text{ n L}^{0.333}) / S^{0.2}$ where: t = overland sheet flow travel time (min) L = overland sheet flow path length (m) n = Horton's surface roughness factor S = slope of surface (%) L(m) =88.4 U/S RL (m) = 300.50 D/S RL (m) = 298.70 S (%)= 0.015 - refer QUDM 2017, Figure 4.4, assumed paved surface 6.2 t (mins) = c) Total Tc t (mins) = 6.2 (3) Design Flow (Q) $Q_y = 0.00278 \times C_y \times {}^t I_y \times A$ - refer QUDM 2017, Section 4.3 where: Q_v = peak flow rate (m³/s) for annual exceedence probability (AEP) of 1 in 'y' years C_v = coefficient of discharge (dimensionless) for AEP of 1 in 'y' years A = area of catchment (ha) ^tl_v = average rainfall intensity (mm/h) for a design duration of 't' hours and an AEP of 1 in 'y' years t = the nominal design storm duration as defined by the time of concentration (t_c) Design ARI, y = 100 A (ha) = 0.113644 1136.436 m2 Catchment Area (m2) = 1136.436 t_c (mins) = Impervious Area (m2) = 656.455 6.2 Rainfall intensity, I (mm/hr) = 263.9 Fraction Impervious = 0.58 $^{1}I_{10}$ (mm/hr) = 62.7 Fraction impervious, f_i = 0.58 - refer QUDM 2017, Table 4.5.1 Frequency Factor, F = 1.20 - refer QUDM 2017, Table 4.5.2 $C_{10} =$ 0.82 - refer QUDM 2017, Table 4.5.3 & 4.5.4 0.98 $Q (m^3/s) = 0.082$



APPENDIX E

DRAIN CAPACITY

HYDRAULICS ASSESSMENT

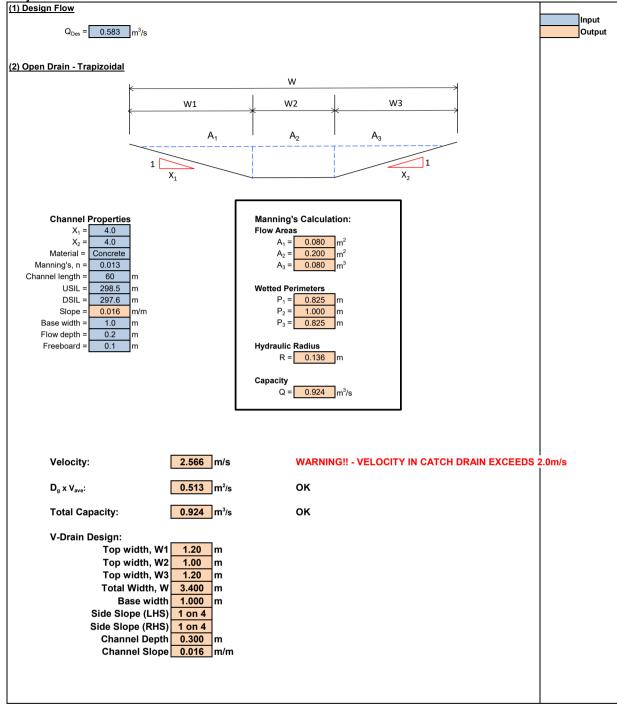
(OPEN DRAIN CAPACITY - TRAPIZOIDAL)



Project Name: 7 New Queen Road, Charters Towers

Project Location: Charters Towers





Document Set ID: 5112176 Version: 1, Version Date: 15/09/2025

1394 Stormwater Assessment



ENGINEERS ESTIMATE

7 New Queen Road, Charters Tower

Job No. 1394
Ref No. RM0027
Date. 10/09/2025

ITEM				Date.	10/09/2025	
TEW	DESCRIPTION				TOTAL	
1	SCHEDULE A - PRELIMINARIES				\$17,500.0	
2	SCHEDULE B - EARTHWORKS				\$116,999.3	
3	SCHEDULE C- DEMOLITION WORKS				\$426,154.3	
4	SCHEDULE D- CONCRETE WORKS				\$26,560.0	
5	SCHEDULE E - STORMWATER				\$26,560.0	
6	SCHEDULE F- MISCELLANEOUS				\$27,500.0	
SUBTOTAL 10% GST						
			CONST	RUCTION TOTAL	\$64,127. \$705,401.	
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	
	SCHEDULE A - PRELIMINARIES Project Management	Item	1.0	\$5,000.00	\$5,000.00	
	Site Establishment/Dis-establishment	Item	1.0	\$7,500.00	\$7,500.00	
	As-Constructed plans	Item	1.0	\$2,500.00	\$2,500.00	
1.5	Erosion and sediment control measures	Item	1.0	\$2,500.00	\$2,500.00	
		SCHEDULE	A - PRELIMINAR	IES (EXCL. GST)	\$17,500.00	
	SCHEDULE B - EARTHWORKS Clearing and grubbing	2	4422.4	\$7.50	¢22 160 11	
	Clearing and grubbing Stripping of topsoil (150mm)	m ²	633.6	\$20.00	\$33,168.11 \$12,672.90	
	Earthworks:	'''	000.0	Ψ20.00	Ψ12,012.30	
	(a) Fill Material	m ³	242.0	\$55.00	\$13,310.00	
	(b) Cut to Spoil (Provisional Qty)	m ³	42.0	\$25.00	\$1,050.00	
	(c) Removal of unsuitable material (Provisional Qty)-assumed 30% of subgrade to be unsuitable	m ³	314.8	\$43.00	\$13,534.53	
0.4	(d) Replacement of unsuitable material with general fill material (Provisional Qty)	m ³	104.9	\$55.00	\$5,770.54	
2.4	CTB Pavement	3	105.0	¢130.00	¢16.250.00	
	(a) 150mm 3% CTB (b) 150mm Type 2.3	m³ m³	125.0 125.0	\$130.00 \$100.00	\$16,250.00 \$12,500.00	
2.5	(6) 10011111 1 1 1 1 2 2 2		0.0	4.00.00		
	Final Trim				ψ.2,000.00	
	Final Trim (b) Trim, water and compact road subgrade (compaction 98% SDD)	m ²	3497.3	\$2.50	\$8,743.24	
	(b) Trim, water and compact road subgrade (compaction 98% SDD)		3497.3 E B - EARTHWOR			
	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS	SCHEDUL	E B - EARTHWOR	KS (EXCL. GST)	\$8,743.24 \$116,999.32	
3.1	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete	SCHEDUL m ²	E B - EARTHWOR 23.4	\$120.00	\$8,743.24 \$116,999.32 \$2,808.00	
3.1	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund	M ² m ²	E B - EARTHWOR	\$120.00 \$25.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50	
3.1 3.2	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund	M ² m ²	E B - EARTHWOR 23.4 124.5	\$120.00 \$25.00	\$8,743.24 \$116,999.32 \$2,808.00	
3.1 3.2 4 4.1	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement	M ² m ²	E B - EARTHWOR 23.4 124.5	\$120.00 \$25.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50	
3.1 3.2 4 4.1	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction	m ² m ² EDULE C- D	23.4 124.5 EMOLITION WOR	\$120.00 \$25.00 \$25.00 \$10.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00	
3.1 3.2 4 4.1 4.2	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3)	m ² m ² EDULE C- D m m ³	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$44,500.00	
3.1 3.2 4 4.1 4.2	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains)	m ² m ² EDULE C- D	23.4 124.5 EMOLITION WOR	\$120.00 \$25.00 \$25.00 \$10.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$44,500.00	
3.1 3.2 4 4.1 4.2 4.3	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb	m ² m ² EDULE C- D m m ³	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$44,500.00 \$377,707.86	
3.1 3.2 4 4.1 4.2 4.3 4.4	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains)	m ² m ² EDULE C- D m m ³ m ³	23.4 124.5 EMOLITION WOR 45.4 445.0 559.6	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$44,500.00	
3.1 3.2 4 4.1 4.2 4.3 4.4	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines	m ² m ² EDULE C- D m m ³ m ³ m	23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00 \$12.50	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$44,500.00 \$377,707.86	
3.1 3.2 4.1 4.2 4.3 4.4	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines	m ² m ² EDULE C- D m m ³ m ³ m	23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00 \$12.50	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$44,500.00 \$377,707.86 \$1,567.50	
3.1 3.2 4 4.1 4.2 4.3 4.4 4.5	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER	m ² m ² EDULE C- D m m ³ m ³ m	23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00 \$12.50	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$377,707.86 \$1,567.50 \$1,925.00	
3.1 3.2 4 4.1 4.2 4.3 4.4 4.5	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following:	m ² m ² m ³ m ³ m HEDULE D-	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR	\$120.00 \$25.00 \$25.00 \$10.00 \$100.00 \$675.00 \$55.00 \$12.50 \$KS (EXCL. GST)	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$44,500.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36	
3.1 3.2 4 4.1 4.2 4.3 4.4 4.5	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following: (a) 300mm PVC	m ² m ² m ² EDULE C- D m m ³ m m HEDULE D-	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR 45.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00 \$12.50 \$KS (EXCL. GST)	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$44,500.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36	
3.1 3.2 4.1 4.2 4.3 4.4 4.5 5.1	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following: (a) 300mm PVC (b) 100mm PVC	m ² m ² m ² EDULE C- D m m ³ m m HEDULE D-	23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR 45.0 67.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00 \$12.50 \$KS (EXCL. GST) \$220.00 \$80.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$44,500.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36	
3.1 3.2 4 4.1 4.2 4.3 4.4 4.5 5.1	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following: (a) 300mm PVC	m ² m ² m ² EDULE C- D m m ³ m m HEDULE D-	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR 45.0	\$120.00 \$25.00 \$25.00 \$10.00 \$10.00 \$675.00 \$12.50 \$KS (EXCL. GST)	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$44,500.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36	
3.1 3.2 4 4.1 4.2 4.3 4.4 4.5 5.1 5.2 5.3	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following: (a) 300mm PVC (b) 100mm PVC Grated Kerb Inlet Pits complete	m ² m ² m ² EDULE C- D m m ³ m ³ m HEDULE D- m No. No. m ²	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR 45.0 67.0 2.0 1.0 15.0	\$120.00 \$25.00 \$25.00 \$10.00 \$100.00 \$675.00 \$55.00 \$12.50 \$KS (EXCL. GST) \$220.00 \$80.00 \$3,500.00 \$2,500.00 \$120.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$44,500.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36 \$9,900.00 \$5,360.00 \$7,000.00	
3.1 3.2 4.4 4.1 4.2 4.3 4.4 4.5 5.1 5.2 5.3 5.4	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following: (a) 300mm PVC (b) 100mm PVC Grated Kerb Inlet Pits complete Supply and install precast headwall with apron Grouted Rock Protection	m ² m ² m ² EDULE C- D m m ³ m ³ m HEDULE D- m No. No. m ²	23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR 45.0 67.0 2.0 1.0	\$120.00 \$25.00 \$25.00 \$10.00 \$100.00 \$675.00 \$55.00 \$12.50 \$KS (EXCL. GST) \$220.00 \$80.00 \$3,500.00 \$2,500.00 \$120.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36 \$9,900.00 \$5,360.00 \$7,000.00 \$2,500.00	
3.1 3.2 4 4.1 4.2 4.3 4.4 4.5 5.1 5.2 5.3 5.4 66	(b) Trim, water and compact road subgrade (compaction 98% SDD) SCHEDULE C- DEMOLITION WORKS Removal and disposal of existing concrete Removal and disposal of existing bund SCHE SCHEDULE D- CONCRETE WORKS Sawcut existing pavement Pavement material as specified including supply, spreading, watering and compaction (a) 125mm base (Type 2.3) Concrete (including open drains) Kerb (a) Supply and Install Kerb Pavement Marking (a) Paint Lane Lines SC SCHEDULE E - STORMWATER Excavation, sand bedding, supply, lay, joint, backfill, compact and dispose of surplus spoil for the following: (a) 300mm PVC (b) 100mm PVC Grated Kerb Inlet Pits complete Supply and install precast headwall with apron	m ² m ² m ² EDULE C- D m m ³ m ³ m HEDULE D- m No. No. m ²	E B - EARTHWOR 23.4 124.5 EMOLITION WOR 45.4 445.0 559.6 28.50 154.0 CONCRETE WOR 45.0 67.0 2.0 1.0 15.0	\$120.00 \$25.00 \$25.00 \$10.00 \$100.00 \$675.00 \$55.00 \$12.50 \$KS (EXCL. GST) \$220.00 \$80.00 \$3,500.00 \$2,500.00 \$120.00	\$8,743.24 \$116,999.32 \$2,808.00 \$3,112.50 \$5,920.50 \$454.00 \$377,707.86 \$1,567.50 \$1,925.00 \$426,154.36 \$9,900.00 \$5,360.00 \$7,000.00 \$2,500.00 \$1,800.00	

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