



GATTON S.T.P.
HYPOCHLORITE TANK REPLACEMENT
CONTRACT No. SOA C1011-045

OPERATION & MAINTENAINCE MANUAL

Developed by:



J & P RICHARDSON INDUSTRIES
CAMPBELL AVENUE
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GATTON HILL S.T.P.
HYPOCHLORITE TANK REPLACEMENT
CONTRACT No. SOA C1011-045

DOCUMENT CHANGE HISTORY

Revision Control

Version	Author	Issue Purpose	Signature	Date
0	Paul Houston / Rob Miotti	Original Issue	<i>Rob Miotti</i>	29-3-16

Reviewed by

Version	Author	Position	Signature	Date
0	Darren Wedley	Project Manager	<i>Darren Wedley</i>	29-3-16

CONTENTS

- 1 Introduction
- 2 Product Data Sheets
 - 2.1 HDPE Tank & Bund
- 3 Certification Forms
- 4 Test Reports
- 5 "As Constructed" Drawings

1 INTRODUCTION

The site of these works is located at the Gatton Sewerage Treatment Plant, Treatment Plant Road, Gatton. The purpose of this project was to:

1. Upgrade the Sodium Hypochlorite Tank & dosing system by installing a 10,00L Tank, to suit the anticipated duty expected over the next 25 years.
2. Bring the storage & dosing facilities into compliance with the current Australian Standards & Codes of Practice.

2 PRODUCT DATA SHEETS

2.1 HDPE TANK & BUND

Tank Specification

Working Capacity	10,000 L	
Documentation	Design documentation, Producer statement, as-built Drawings up to revision C.	
Engineering standard	DVS 2205, BS EN 12573	
Design criteria	Sodium Hypochlorite at 30°C	
Specific Gravity	1.2	
Dimensions	Tank ID = 2600 mm, Apex Height = 2400 mm, O/A Cylinder Height = 2000 mm Flat Base	
Material	Black HDPE	
Tank Connections	Inlet	DN50 PN16 PE Stub/ BR Galv. Steel AS4087 PN 16
	Outlet	DN50 PN16 PE Stub! BR Galv. Steel AS4087 PN 16
	Overflow	DN80 PN16 PE Stub! BR Galv. Steel AS4087 PN 16
	Vent	DN25 PN16 PE Stub! BR Galv. Steel AS4087 PN 16
	Sight Glass	DN25 Clear PVC with GF Ball Valve
	Tank Identification Plaque	
Testing	Hydrostatic	

Bund

Core filled concrete block wall 4410mm x 4210mm x 600mm internal.

Coating – Epigen 4029

Volume – 11,140L

3 CERTIFICATION FORMS

Form 15—Compliance Certificate for building Design or Specification

NOTE	<p>This is to be used for the purposes of section 10 of the <i>Building Act 1975</i> and/or section 46 of the <i>Building Regulation 2006</i>.</p> <p>RESTRICTION: A building certifier (class B) can only give a compliance certificate about whether building work complies with the BCA or a provision of the QDC. A building certifier (Class B) can not give a certificate regarding QDC boundary clearance and site cover provisions.</p>								
<p>1. Property description This section need only be completed if details of street address and property description are applicable. EG. In the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable.</p> <p>The description must identify all land the subject of the application.</p> <p>The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice.</p> <p>If the plan is not registered by title, provide previous lot and plan details.</p>	<p>Street address <i>(include no., street, suburb / locality & postcode)</i></p> <table border="1" data-bbox="483 472 1469 562"> <tr> <td>Waste Water Treatment Plant, Treatment Plant Road</td><td></td></tr> <tr> <td>GATTON QLD</td><td>Postcode 4343</td></tr> </table> <p>Lot & plan details <i>(attach list if necessary)</i></p> <table border="1" data-bbox="483 600 1469 645"> <tr> <td></td></tr> </table> <p>In which local government area is the land situated?</p> <table border="1" data-bbox="483 683 1469 728"> <tr> <td>Gatton Shire Council</td></tr> </table>	Waste Water Treatment Plant, Treatment Plant Road		GATTON QLD	Postcode 4343		Gatton Shire Council		
Waste Water Treatment Plant, Treatment Plant Road									
GATTON QLD	Postcode 4343								
Gatton Shire Council									
<p>2. Description of component/s certified Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.</p>	<table border="1" data-bbox="483 875 1469 1182"> <tr> <td>Footings & Slab</td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> </table>	Footings & Slab							
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<p>3. Basis of certification Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.</p>	<table border="1" data-bbox="483 1211 1469 1525"> <tr> <td>Current Australian Standards</td></tr> <tr> <td>Engineering Principles</td></tr> <tr> <td>Building Code of Australia</td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> </table>	Current Australian Standards	Engineering Principles	Building Code of Australia					
Current Australian Standards									
Engineering Principles									
Building Code of Australia									

Date received		Reference Number/s	
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The *Building Act 1975* is administered by the
Department of Housing and Public Works



**Queensland
Government**

4. Reference documentation

Clearly identify any relevant documentation, e.g. numbered structural engineering plans.

Structural Engineering Plans by Icon Consulting Engineers P/L Ref No 1505-03 sheets 01 to 03
Issue B

5. Building certifier reference number

Building certifier reference number

6. Competent person details

A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect.

If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.

If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.

Name (*in full*)

Scott Duncan Wilson Fairley

Company name (*if applicable*)

Icon Consulting Engineers Pty. Ltd.

Contact person

Scott Fairley

Phone no. *business hours*

(07) 5559 2445

Mobile no.

Fax no.

(07) 5559 2446

Email address

info@i-con.com.au

Postal address

PO Box 196

West Burleigh Qld

Postcode 4219

Licence or registration number (*if applicable*)

RPEQ – 8423

7. Signature of competent person

This certificate must be signed by the individual assessed by the building certifier as competent.

Signature



Date

24/08/2015

Form 16—Inspection Certificate / Aspect Certificate / QBSA Licensee Aspect Certificate

NOTE	This form is to be used for the purposes of section 10(c) and 239 of the <i>Building Act 1975</i> and/or sections 32, 35B, 43, 44 and 47 of the <i>Building Regulation 2006</i> .				
1. Indicate the type of certificate The stages of assessable building work are listed in section 24 of the <i>Building Regulation 2006</i> or as conditioned by the building certifier. An aspect of building work is part of a stage (e.g. waterproofing).	<div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="margin-bottom: 20px;"> <input type="checkbox"/> Inspection Certificate for <input type="checkbox"/> Stage of building work (for single detached class 1a or class 10 building or structure) (indicate the stage) _____ <input checked="" type="checkbox"/> Aspect of building work (indicate the aspect) Piers, Footings & Slab </div> <hr/> <div> <input type="checkbox"/> QBSA Licensee Aspect Certificate Scope of the work Scope of the work covered by the licence class under the <i>Queensland Building Services Authority Regulation 2003</i> for the aspect being certified, e.g. scope of work for a waterproofing licence is "installing waterproofing materials or systems for preventing moisture penetration". An aspect being certified may include "wet area sealing to showers". <div style="border: 1px solid black; height: 100px; width: 100%;"></div> </div> </div>				
2. Property description The description must identify all land the subject of the application. The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice. If the plan is not registered by title, provide previous lot and plan details.	Street address <i>(Include no., street, suburb / locality & postcode)</i> <div style="border: 1px solid black; padding: 2px;">Cnr Treatment Plant Road & Allan Street</div> <div style="border: 1px solid black; padding: 2px;">Gatton QLD 4343</div> Lot & plan details <i>(Attach list if necessary)</i> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> In which local government area is the land situated? <div style="border: 1px solid black; padding: 2px;">Gatton Shire Council</div>				
3. Building/structure description	Building/structure description <div style="border: 1px solid black; padding: 2px;">Water Tank Slab</div> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	Class of building / structure <div style="border: 1px solid black; padding: 2px;">10a</div> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>			
LOCAL GOVERNMENT USE ONLY <table border="1" style="width: 100%;"> <tr> <td style="width: 40%;">DATE RECEIVED</td> <td style="width: 20%;"></td> <td style="width: 40%;">REFERENCE NUMBER/S</td> </tr> </table>			DATE RECEIVED		REFERENCE NUMBER/S
DATE RECEIVED		REFERENCE NUMBER/S			

4. Description of component/s certified

Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.

Piers (excavation & reinforcement) 30/10/2015

Footings & Slab (excavation & reinforcement) 03/11/2015

5. Basis of certification

Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.

Visual Inspection

Building Code of Australia

Current Australian Standards

Engineering Principles

6. Reference documentation

Clearly identify any relevant documentation, e.g. numbered structural engineering plans.

Structural Engineering Plans by Queensland Urban Utilities – Gatton S.T.P. Treatment Plant Road Hypochlorite Tank Installation

Dwg. No.: 486/5/5-0304-306 (Amendment O – 11/15)

Dwg. No.: 486/5/5-0304-307 (Amendment O – 11/15)

Dwg. No.: 486/5/5-0304-308 (Amendment O – 11/15)

7. Building certifier reference number and development approval number

Building certifier reference number

Development approval number

8. Building Certifier, competent person or QBSA licensee details

A **competent person** must be assessed as competent before carrying out the inspection.

The builder for the work cannot give a stage certificate of inspection.

A competent person is assessed by the building certifier for the work as competent to practice in an aspect of the building and specification design, because of the individual's skill, experience and qualifications. The competent person must be registered or licensed under a law applying in the State to practice the aspect.

If no relevant law requires the individual to be licensed or registered, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.

If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.

Name (*in full*)

Scott Duncan Wilson Fairley

Company name (*if applicable*)

Icon Consulting Engineers Pty. Ltd.

Contact person

Scott Fairley

Phone no. *business hours*

(07) 5559 2445

Mobile no.

0420 527 273

Fax no.

(07) 5559 2446

Email address

info@i-con.com.au

Postal address

PO Box 196

West Burleigh Qld

Postcode 4219

Licence or registration number (*if applicable*)

RPEQ – 8423

9. Signature of building certifier, competent person or QBSA licensee

Note: A building certifier must sign this form for temporary swimming pool fencing under section 4 of Schedule 1 of QDC MP 3.4.

Signature



Date

30/11/2015

Certificate of Compliance

Project:	Laidley & Gatton Bund Access Stairs	Prepared:	Vimal Soni
Client:	J & P Richardson	Issue Date:	12.01.2016
		Revision	0
Job No.	JPR-005	Total pages:	2

Scope

As requested by J & P Richardson, Practical Engineering Australia has conducted a structural assessment of the Laidley & Gatton STP bund access stairs to the following design data, assumptions and applicable Australian Standards.

Design data

The following design data was used to assess the bund access stairs:

- Pdf Dwg: 486/5/5-0304-310, Bund Access Stairs, Rev A, Dated 12.15
- Pdf Dwg: 486/5/5-0304-410, Bund Access Stairs, Rev A, Dated 12.15
- Autocad: 550304310-A.dwg, Rev A, Dated 12.15
- Autocad: 550304410-A.dwg, Rev A, Dated 12.15

Applicable Standards

The relevant sections of the following Australian Standards were used to assess bund access stairs:

- *AS1657:2013 Fixed Platforms, walkways, stairways and ladders – Design, construction and installation*
- *AS3990:1993 Mechanical Equipment - Steelwork*

Operation Loads

The following Operational Loads apply:

- Platform Loads: 2.5 kPa
- Stair Tread Loads: 2.5 kPa

Assumptions

The following assumptions were made in the preparation of this certification:

- The concrete sub-structure is structurally sound for the platform loads.

Certification requirements

The certification requirements are:

- The above mentioned 'Operational Loads' shall not be exceeded.
- The stairway and platform should be mounted on level ground.
- The height clearance above the stairways and platform must be a minimum of 2000mm.
- The rise from the ground to the first stair tread must be 200mm +/- 5mm.

Marking:

Recommended marking should include:

1. Design No: JPR-005
2. Serial No: 101952-001, 101952-002
3. W.L.L: AS1657:2013 2.5kPa
4. Compatability: Gatton S.T.P Bund Access Stairs, Laidley S.T.P Bund Access Stairs
5. Manufacturer: Practical Engineering Australia
6. Manufacture Date: Jan 2016

Maintenance requirements

Recommended maintenance should include:

1. The structural members should periodically be visually inspected for obvious signs of excessive wear, cracking, corrosion and gross deformation. The certified object shall be withdrawn from service until the damage has been repaired.


Results:

Under the above conditions, analysis shows that Laidley & Gatton Bund access stairs complies with the listed Australian Standards.

Report Preparation

I, Vimal Soni, confirm that the above Laidley & Gatton Bund STP access stairs have been designed in accordance with relevant Australian Standards and is fit for purpose.

Signature



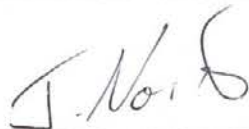
Date 12.01.2016

Name **Vimal Soni BEng (Mech),
Design Engineer**

RPEQ Review by

I, Joe Norris, certify that the above Laidley & Gatton Bund STP access stairs have been designed in accordance with relevant Australian Standards and is fit for purpose.

Signature



Date 12.01.2016

For and on behalf of Practical Engineering Australia Pty Ltd

Name **Joe Norris BEng(Mech), MIEAust, CPEng, NER, RPEQ
Engineering Manager**

Form 15—Compliance Certificate for building Design or Specification

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LOCAL GOVERNMENT USE ONLY

Date received		Reference Number/s	
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5. Building certifier reference number

Building certifier reference number

6. Competent person details

A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect.

If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.

If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.

Name (in full)

Stan Theodore Olech

Company name (if applicable)

Vermont Consultants

Contact person

S T Olech

Phone no. business hours

(07) 3264 8409

Mobile no.

Fax no.

Email address

vermont7@bigpond.com

Postal address

P O Box 533

Albany Creek

Postcode 4035

Licence or registration number (if applicable)

RPEQ 2426

7. Signature of competent person

This certificate must be signed by the individual assessed by the building certifier as competent.

Signature



Date

1/07/2014

(This certificate is valid to 30/06/2015)

4 TEST REPORTS

ITP Sign off on 26/02/2016

Page 1 of 5



INSPECTION & TEST PLAN (ITP) –Epigen 4029 Field Work

GATTON STP

Date: 23/11/15

Application of Epigen 4029 (Field Works)

St. No.	Particulars	Test Frequency	Description & Acceptance Criteria	Inspection Record Documentation	Reference Standard	Instruments	Inspection by QIC	Inspection by JPR	Inspection by QUU	Inspection by IVB
A	Raw Materials									
1	Epigen 4029 Part A	Each Batch	Manufacturers Test Reports	Manufacturers Test Reports			R AS	R <i>Ray</i>	R	M
2	Epigen 4029 Part B	Each Batch	Manufacturers Test Reports	Manufacturers Test Reports			H AS	A/R <i>Ray</i>	A/R	M
3	Blast Cleaning media – Garnet	Each Batch	Manufacturers Test Certificates Chloride Level <100 mg/1kg Copper Level < 0.3%	Suppliers Test Certificates			H AS	A/R <i>Ray</i>	A/R	M
4	Epoxy Material Storage	Daily	Between 5 – 50° C	Applicators Inspection Report			H AS	M <i>Ray</i>	M	M
5	Incoming Receipt & Tracking	Each Item	Visual Inspection: record no. As received	Applicators Inspection Report			H AS	R <i>Ray</i>	R	R

Legend: H : HOLD W : WITNESS R : REVIEW / RECORD M : MONITOR A : APPROVED

Approved by: _____

ITP Sign off on 26/02/2016

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INSPECTION & TEST PLAN (ITP) –Epigen 4029 Field Work

GATTON STP

Date: 23/11/15

Application of Epigen 4029 (Field Works)

St. No.	Particulars	Test Frequency	Description & Acceptance Criteria	Inspection Record Documentation	Reference Standard	Instruments	Inspection by QIC	Inspection by JPR	Inspection by QUU	Inspection by IVB
B	Surface Preparation									
1	No approved paperwork No work to proceed	Every Day	Paper work Approved	Check sheet/ coating record			H AS	H Rm	H	H
2	Surface contamination	Each Item	Surface to be clear of oil, foreign material	Applicators Inspection Report	AS 3894.6	Visual & as per AS 3894.6 Method B	H AS	M Rm	M	M
3	Humidity/Dewpoint	Every 4 hours	Manufacture Material Data Sheet Below 85 % RH	Applicators Inspection Report	AS 3894.7	Dewpoint/ Humidity Meter	H AS	H Rm	W	M
			Manufacture Material Data Sheet 3°C Above Dewpoint	Applicators Inspection Report	AS 3894.7	Dewpoint/ Humidity Meter				
4	Surface Profile	Each Tank visually observed	Manufacture Material Data Sheet 80 grit sand paper	Applicators Inspection Report			H AS	W Rm	W	M
5	Masking	Each Tank	Item to be masked as required and to protect any other equipment				H AS	W Rm	M	M

Legend: H : HOLD W : WITNESS R : REVIEW / RECORD M : MONITOR A : APPROVED

Approved by:

ITP Sign off on 26/02/2016

Page 3 of 5



INSPECTION & TEST PLAN (ITP) –Epigen 4029 Field Work

GATTON STP

Date: 23/11/15

Application of Epigen 4029 (Field Works)

St. No.	Particulars	Test Frequency	Description & Acceptance Criteria	Inspection Record Documentation	Reference Standard	Instruments	Inspection by QIC	Inspection by JPR	Inspection by QUU	Inspection by IVB
C	Coating Application									
1	No approved paperwork No work to proceed	Every Day	Paper work Approved	Check sheet/ coating record			H AS	H Ray	H	H
2	Recording of Epigen 4029 Batch Number	Each Tank	Manufacturers batch test certificates	Applicators Inspection Report			H AS	RM Ray	RM	RM
3	Bare Substrate surface temp. Prior to application of coating	Each Tank	Manufacture Material Data Sheet Minimum 15°C max 70°C	Applicators Inspection Report	AS 3894.7	Dew Point Meter	H AS	W Ray	M	M
4	Wet Film thickness – WFT	Each Item Minimum of 1 reading, determined by visual examination during coating application	Minimum WFT 500um Walls Minimum WFT 1000um Floor	Applicators Inspection Report	AS 3894.3	WFT Comb	H AS	W Ray	M	M
Legend: H : HOLD W : WITNESS R : REVIEW / RECORD M : MONITOR A : APPROVED										
							Approved by:			

ITP Sign off on 26/02/2016

Page 4 of 5




INSPECTION & TEST PLAN (ITP) –Epigen 4029 Field Work

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St. No.	Particulars	Test Frequency	Description & Acceptance Criteria	Inspection Record Documentation	Reference Standard	Instruments	Inspection by QIC	Inspection by JPR	Inspection by QUU	Inspection by IVB
D	Post Application Inspection & Testing									
1	No approved paperwork No work to proceed	Every Day	Paper work Approved	Check sheet/ coating record			H AS	RM RM	RM	RM
2	Holiday testing Holiday detector checked prior to commencing readings	100% Coverage	No holiday brushes at 100V per 25UM 4.8kV	Applicators Inspection Report	AS 3894.1 RP 0188	Holiday detector & visual	H AS	H RM	W	M
3	Tracking	Each Tank	Record Item no. As being coated & tested	Applicators Inspection Report			H AS	W/R RM	RM	M
4	Visual Inspection	Each Item	No obvious sags greater than 3mm	Applicators Inspection Report			H AS	W RM	W	M
Legend: H : HOLD W : WITNESS R : REVIEW / RECORD M : MONITOR A : APPROVED										
Approved by:										

ITP Sign off on 26/02/2016

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Application of Epigen 4029 (Field Works)

St. No.	Particulars	Test Frequency	Description & Acceptance Criteria	Inspection Record Documentation	Reference Standard	Instruments	Inspection by QIC	Inspection by JPR	Inspection by QUU	Inspection by IVB
E	Repairs	All coated Items shall meet the acceptance criteria as specified for post application inspection and testing. Any non-compliance shall be repaired or the item stripped and re-coated to comply with the performance requirements of this ITP. Repairs shall be performed in accord with the manufacturer's specified procedure and shall meet the acceptance criteria as below								
1	No approved paperwork No work to proceed	Every Day	Paper work Approved	Check sheet/ coating record			H	RM	RM	RM
3	Dry film thickness – DFT	Each repair, 12hr min after application	Minimum WFT 500um Walls Minimum WFT 1000um Floor	Applicators Inspection Report	AS3894.3	DFT Gauge	H	W	W	M
4	Holiday Testing	Each repair	RP0188 No holiday Brushes only 100v per 25um	Applicators Inspection Report	AS3894.1	Holiday detector & visual	H	H	W	M
Legend: H : HOLD W : WITNESS R : REVIEW / RECORD M : MONITOR A : APPROVED										
							Approved by:			

There were no repairs done to the coating. The bunds were holiday tested on Thursday 11th Feb 2016 after equipment had been installed to ensure no damage had been done to coating. HV testing passed 0 holidays Found.

Digitally signed by Aaron Sharman

DN: cn=Aaron Sharman

Date: 2016.02.26 08:49:42 +10'00'

Project Information

Report Issue Date: 11-02-2016

Client Name: JP Richardson

Project Name: Gatton & Laidley Bund Coatings





Contact Name: Rob Miotti

Contact Email: r_miotti@jpr.com.au

Item	ID Number	Description	Comments
1	LAIDLEY CHEMICAL BUND		
2	GATTON CHEMICAL BUND		

Inspection Dates: 07-12-2015, 08-12-2015




Item	Subject																																																				
1	<p>Progress</p> <p>The following activities were performed on this Item.</p> <ul style="list-style-type: none">• Environment readings were taken.• Blasting activities were undertaken.• Coating application activities were undertaken.• Photographs were taken.																																																				
2	<p>Weather Conditions</p> <p>Relevant atmospheric and climatic conditions for 07-12-2015 to 08-12-2015.</p> <p>Atmospheric Conditions</p> <table><tr><th>Date</th><th>Time</th><th>Clouds</th><th>Rain</th><th>Wind</th></tr><tr><td>07-12-2015</td><td>09:11</td><td>Scattered</td><td>None</td><td>Light</td></tr><tr><td>07-12-2015</td><td>13:20</td><td>Scattered</td><td>None</td><td>Light</td></tr><tr><td>08-12-2015</td><td>13:05</td><td>Scattered</td><td>None</td><td>Light</td></tr></table> <p>Climatic Conditions</p> <table><tr><th>Date</th><th>Time</th><th>Air Temp (C)</th><th>RH %</th><th>Surface Temp (C)</th><th>Dew Point (C)</th><th>Delta T (C)</th><th>Ok To Paint?</th></tr><tr><td>07-12-2015</td><td>09:11</td><td>32.9</td><td>41.6</td><td>32.6</td><td>18.2</td><td>14.4</td><td>OKAY TO PAINT</td></tr><tr><td>07-12-2015</td><td>13:20</td><td>43.1</td><td>24.2</td><td>40.5</td><td>18.6</td><td>21.9</td><td>OKAY TO PAINT</td></tr><tr><td>08-12-2015</td><td>13:05</td><td>42.1</td><td>25.8</td><td>34.0</td><td>18.7</td><td>15.3</td><td>OKAY TO PAINT</td></tr></table>	Date	Time	Clouds	Rain	Wind	07-12-2015	09:11	Scattered	None	Light	07-12-2015	13:20	Scattered	None	Light	08-12-2015	13:05	Scattered	None	Light	Date	Time	Air Temp (C)	RH %	Surface Temp (C)	Dew Point (C)	Delta T (C)	Ok To Paint?	07-12-2015	09:11	32.9	41.6	32.6	18.2	14.4	OKAY TO PAINT	07-12-2015	13:20	43.1	24.2	40.5	18.6	21.9	OKAY TO PAINT	08-12-2015	13:05	42.1	25.8	34.0	18.7	15.3	OKAY TO PAINT
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3	<p>Surface Preparation Activities</p> <p>Item: LAIDLEY CHEMICAL BUND ;</p> <p>07-12-2015 07:01:</p> <p>Blasting commenced.</p>																																																				

Item	Subject
	<p>Item: LAIDLEY CHEMICAL BUND ; 07-12-2015 07:27: Blasting completed.</p> <p>Item: GATTON CHEMICAL BUND ; 07-12-2015 09:12: Blasting commenced.</p> <p>Item: GATTON CHEMICAL BUND ; 07-12-2015 09:28: Blasting completed.</p>
	<div>  <p>07-12-2015 Photograph of Item LAIDLEY CHEMICAL BUND with surface preparation to commence at 07:01 .</p> </div> <div>  <p>07-12-2015 Photograph of Item LAIDLEY CHEMICAL BUND with surface preparation completed at 07:27 .</p> </div>
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4	Surface Preparation Inspection No Surface Preparation Inspections were performed on this Item.																																																																																																																																																																		
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6	Painting Activities <table><tr><td colspan="9">Item: LAIDLEY CHEMICAL BUND</td></tr><tr><th>Date</th><th>Time</th><th>Product</th><th>Colour</th><th>Part A Batch#</th><th>Part B Batch#</th><th>Litres</th><th>Thinner Added</th><th>% Added</th></tr><tr><td>07-12-2015</td><td>07:28 Start</td><td>402 Full Coat</td><td>Clear</td><td>151110</td><td>151124</td><td></td><td>No Thinners</td><td>0.0</td></tr></table> <table><tr><td colspan="9">Item: LAIDLEY CHEMICAL BUND</td></tr><tr><th>Date</th><th>Time</th><th>Product</th><th>Colour</th><th>Part A Batch#</th><th>Part B Batch#</th><th>Litres</th><th>Thinner Added</th><th>% Added</th></tr><tr><td>07-12-2015</td><td>08:19 Stop</td><td>402 Full Coat</td><td>Clear</td><td>151110</td><td>151124</td><td></td><td>No Thinners</td><td>0.0</td></tr></table> <table><tr><td colspan="9">Item: LAIDLEY CHEMICAL BUND</td></tr><tr><th>Date</th><th>Time</th><th>Product</th><th>Colour</th><th>Part A Batch#</th><th>Part B Batch#</th><th>Litres</th><th>Thinner Added</th><th>% Added</th></tr><tr><td>07-12-2015</td><td>14:26 Start</td><td>4029 Full Coat</td><td>Cream</td><td>121247</td><td>121258</td><td></td><td>No Thinners</td><td>0.0</td></tr></table> <table><tr><td colspan="9">Item: LAIDLEY CHEMICAL BUND</td></tr><tr><th>Date</th><th>Time</th><th>Product</th><th>Colour</th><th>Part A Batch#</th><th>Part B Batch#</th><th>Litres</th><th>Thinner Added</th><th>% Added</th></tr><tr><td>07-12-2015</td><td>15:00 Stop</td><td>4029 Full Coat</td><td>Cream</td><td>121247</td><td>121258</td><td></td><td>No Thinners</td><td>0.0</td></tr></table> <table><tr><td colspan="9">Item: LAIDLEY CHEMICAL BUND</td></tr><tr><th>Date</th><th>Time</th><th>Product</th><th>Colour</th><th>Part A Batch#</th><th>Part B Batch#</th><th>Litres</th><th>Thinner Added</th><th>% Added</th></tr><tr><td>08-12-2015</td><td>06:41 Start</td><td>4029 Full Coat</td><td>Cream</td><td>121247</td><td>121258</td><td></td><td>No Thinners</td><td>0.0</td></tr></table> <table><tr><td colspan="9">Item: LAIDLEY CHEMICAL BUND</td></tr><tr><th>Date</th><th>Time</th><th>Product</th><th>Colour</th><th>Part A Batch#</th><th>Part B Batch#</th><th>Litres</th><th>Thinner Added</th><th>% Added</th></tr><tr><td>08-12-2015</td><td>07:20 Stop</td><td>4029 Full Coat</td><td>Cream</td><td>121247</td><td>121258</td><td></td><td>No Thinners</td><td>0.0</td></tr></table>	Item: LAIDLEY CHEMICAL BUND									Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added	07-12-2015	07:28 Start	402 Full Coat	Clear	151110	151124		No Thinners	0.0	Item: LAIDLEY CHEMICAL BUND									Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added	07-12-2015	08:19 Stop	402 Full Coat	Clear	151110	151124		No Thinners	0.0	Item: LAIDLEY CHEMICAL BUND									Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added	07-12-2015	14:26 Start	4029 Full Coat	Cream	121247	121258		No Thinners	0.0	Item: LAIDLEY CHEMICAL BUND									Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added	07-12-2015	15:00 Stop	4029 Full Coat	Cream	121247	121258		No Thinners	0.0	Item: LAIDLEY CHEMICAL BUND									Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added	08-12-2015	06:41 Start	4029 Full Coat	Cream	121247	121258		No Thinners	0.0	Item: LAIDLEY CHEMICAL BUND									Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added	08-12-2015	07:20 Stop	4029 Full Coat	Cream	121247	121258		No Thinners	0.0
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	Item: LAIDLEY CHEMICAL BUND								
	Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added
	08-12-2015	12:40 Start	4029 Full Coat	Cream	121247	121258		No Thinners	0.0
	Item: LAIDLEY CHEMICAL BUND								
	Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added
	08-12-2015	13:04 Stop	4029 Full Coat	Cream	121247	121258		No Thinners	0.0
	Item: GATTON CHEMICAL BUND								
	Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added
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	07-12-2015	13:20 Start	4029 Full Coat	Cream	121247	121258		No Thinners	0.0
	Item: GATTON CHEMICAL BUND								
	Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added
	07-12-2015	13:51 Stop	4029 Full Coat	Cream	121247	121258		No Thinners	0.0
	Item: GATTON CHEMICAL BUND								
	Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added
	08-12-2015	07:45 Start	4029 Full Coat	Cream	121247	121258		No Thinners	0.0
	Item: GATTON CHEMICAL BUND								
	Date	Time	Product	Colour	Part A Batch#	Part B Batch#	Litres	Thinner Added	% Added
	08-12-2015	08:35 Stop	4029 Full Coat	Cream	121247	121258		No Thinners	0.0

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7	Coating Inspections								
8	Inspection Equipment Used <table><tr><th>Type: Manufacturer - Model</th><th>Serial No.</th><th>Calibration Date</th><th>Calibration Due</th></tr><tr><td>Environmental DPM: Elcometer - 319-TOP</td><td>MH24542-000</td><td>29-03-2015</td><td>29-03-2016</td></tr></table>	Type: Manufacturer - Model	Serial No.	Calibration Date	Calibration Due	Environmental DPM: Elcometer - 319-TOP	MH24542-000	29-03-2015	29-03-2016
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Environmental DPM: Elcometer - 319-TOP	MH24542-000	29-03-2015	29-03-2016						
9	Item Photographs								

5 “AS CONSTRUCTED” DRAWINGS



GATTON S.T.P. TREATMENT PLANT ROAD HYPOCHLORITE TANK INSTALLATION

SITE COVER SHEET - CIVIL / STRUCTURAL

DRAWING No.	Rev	DRAWING TITLE	Remarks
486/5/5-0304-301	B	DRAWING INDEX	AS CONSTRUCTED
486/5/5-0304-302	A	OVERALL SITE WORKS LAYOUT	AS CONSTRUCTED
486/5/5-0304-303	A	SITE LAYOUT	AS CONSTRUCTED
486/5/5-0304-304	A	TOTALSPAN CARPORT DETAILS	AS CONSTRUCTED
486/5/5-0304-305	A	TOTALSPAN CARPORT DETAILS	AS CONSTRUCTED
486/5/5-0304-306	A	CONCRETE SLAB & BUND DETAILS	AS CONSTRUCTED
486/5/5-0304-307	A	CONCRETE SLAB & BUND DETAILS	AS CONSTRUCTED
486/5/5-0304-308	A	CONCRETE SLAB & BUND DETAILS	AS CONSTRUCTED
486/5/5-0304-309	A	MISCELLANEOUS COMPONENTS	AS CONSTRUCTED
486/5/5-0304-310	B	BUND ACCESS STAIRS	AS CONSTRUCTED
486/5/5-0304-311			
486/5/5-0304-312			
486/5/5-0304-313			
486/5/5-0304-314			
486/5/5-0304-315			

AS CONSTRUCTED DETAILS	
I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.	
SIGNED:	DATE: 17-2-16
NAME of SIGNATORY: ROBERT MIOTTI	
RPEQ No. or LICENCE: C19972	
COMPANY NAME: J & P RICHARDSON Ind.	
START DATE: JUNE 2015	FINISH DATE: FEBRUARY 2016

	J. & P. RICHARDSON INDUSTRIES PTY LTD ELECTRICAL CONTRACTORS AND ENGINEERS ABN 23 001 552 325 114 CAMPBELL AVE MACOL QLD 4076 PH: (07) 3271 2911 FAX: (07) 3271 3623 EMAIL: jpr@jpr.com.au
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JPR Project No.: P15-C89875

NAME	SIGNATURE	DATE
QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)		



AS CONSTRUCTED

B	2	16	AS CONSTRUCTED	P.H.	P.H.	P.H.	FUNDING	DRAFTED	P. HOUSTON	P. HOUSTON	20-7-15	ASSET/PROJECT	GATTON S.T.P. TREATMENT PLANT ROAD HYPOCHLORITE TANK INSTALLATION	DRAWING TITLE	DRAWING INDEX	SHEET No. 1 OF 10	QUEENSLAND URBAN UTILITIES DRAWING No.	486/5/5-0304-301	AMEND.	B
A	12	15	DRAWING 486/5/5-0304-310 AMENDED	P.H.	P.H.	P.H.	DESIGN W.O. No.	DRAFTING CHECK	P. HOUSTON	DESIGN	R.P.E.Q. No.	DATE	APPROVED BY	SIGNATURE	DATE					
O	11	15	ISSUED FOR CONSTRUCTION	P.H.	P.H.	P.H.	CONSTRUCTION W.O. No.	CAD FILE	550304301-B.DWG	ORIGINAL SIGNED BY										
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE					



JPR Project No.: P15-C89875

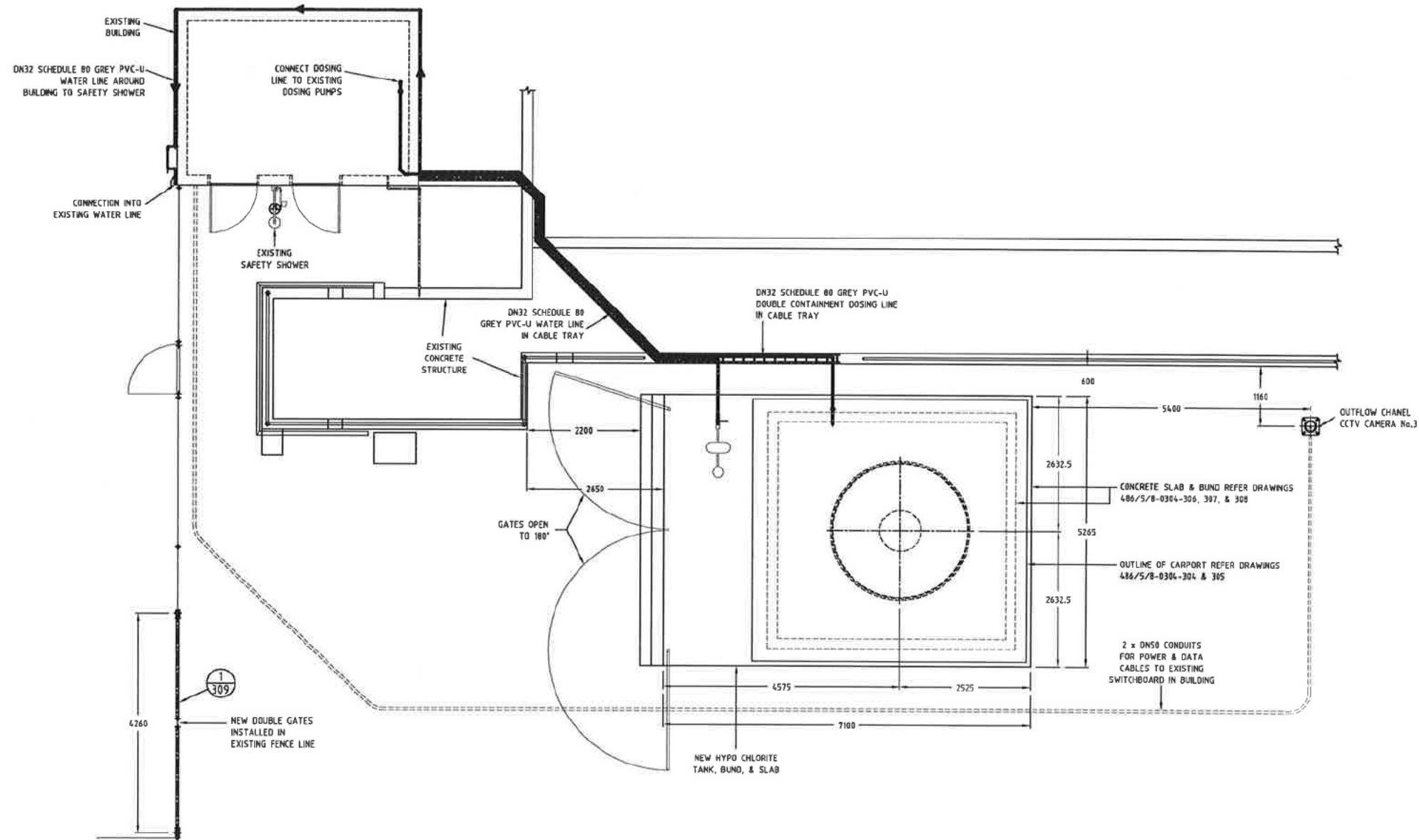
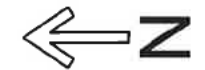


QUEENSLAND
Urban Utilities

SHEET No. 2 OF 10	
QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
486/5/5-0304-302	A

						FUNDING		DRAFTED	P. HOUSTON	P. HOUSTON	20-7-15	
A	2.16	AS CONSTRUCTED	P.H.	P.H.	P.H.	DESIGN W.O. No.		DRAFTING CHECK	P. HOUSTON	DESIGN	R.P.E.Q. No. DATE	APPROVED BY SIGNATURE
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.	P.H.	CONSTRUCTION W.O. No.		CAD FILE	550304302-ADWG	ORIGINAL SIGNED BY		
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	SPEC'D	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No. DATE	CONSTRUCTION MANAGER SIGNATURE

Page 34 of 46



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *R. Mott* DATE: 17-2-16

NAME of SIGNATORY: ROBERT MIOTTI

RPEQ No. or LICENCE: C19972

COMPANY NAME: J & P RICHARDSON Ltd.

START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
INDUSTRIES PTY LTD
ELECTRICAL CONTRACTORS AND ENGINEERS
A.B.N. 23 001 952 325
114 CAMPBELL AVE WACOL QLD 4076
PH: (07) 3271 2911
FAX: (07) 3271 3633
EMAIL: jpr@jpr.com.au

JPR Project No.: P15-C89875

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. 3 OF 10

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0304-303

A

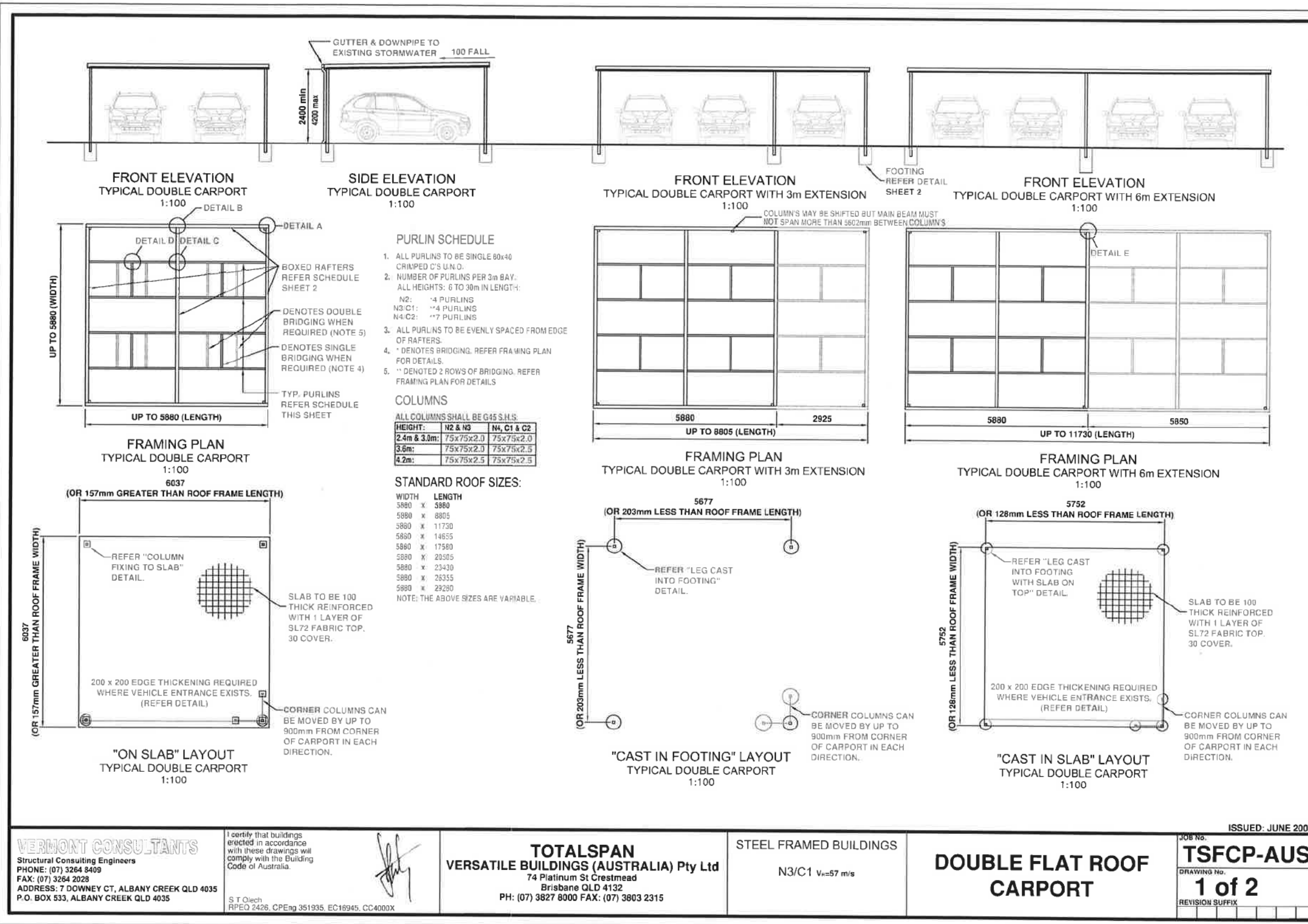
SCALE 1:50 U.N.O.
1A1 SHEET
0 0.25 0.5 0.75 1.0
SCALE OF METERS

AS CONSTRUCTED

ASSET/PROJECT **GATTON S.T.P.
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION**

DRAWING TITLE
SITE LAYOUT

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE
A	2.16	AS CONSTRUCTED	P.H.	P.H.		P.H.									
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.		P.H.									



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SIGNED: *[Signature]* DATE: 17-2-16

NAME OF SIGNATORY: ROBERT MIOTTI

RPEQ No. or LICENCE: C19972

COMPANY NAME: J & P RICHARDSON Ind.

START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
INDUSTRIES PTY LTD
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A.B.N. 23 001 952 325
114 CAMPBELL AVE WACOL QLD 4076
PH: (07) 3271 2611
FAX: (07) 3271 3623
EMAIL: jpr@jpr.com.au

JPR Project No.: P15-C89875

NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. 4 OF 10

QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0304-304

AMEND. A

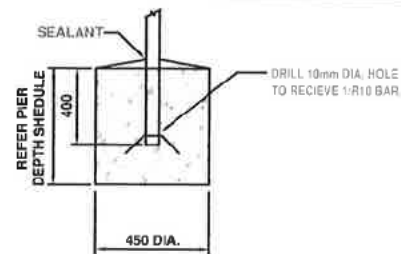
FUNDING				DRAFTED		P. HOUSTON		Main Check		2428 1-7-14		ASSET/PROJECT		DRAWING TITLE	
A	2.16	AS CONSTRUCTED	P.H. P.H. P.H.	DESIGN W.O. No.	DRAFTING CHECK	P. HOUSTON	DESIGN	R.P.E.Q. No.	DATE	APPROVED BY	SIGNATURE DATE	GATTON S.T.P.		TOTALSPAN	
O	1.1.15	ISSUED FOR CONSTRUCTION	P.H. P.H. P.H.	CONSTRUCTION W.O. No.	CAD FILE	60304304-ADWG	ORIGINAL SIGNED BY			CONSTRUCTION MANAGER	SIGNATURE DATE	TREATMENT PLANT ROAD		CARPORT DETAILS	
No.	DATE	AMENDMENT	DRAFTED DESIGNED RPEQ No. APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE			TANK INSTALLATION			

PIER DEPTH

N2	N3/C1	N4/C2
600mm	750mm	750mm

INTERNAL FOOTINGS:

INCREASE DEPTH OF INTERNAL FOOTINGS:
(CARPORTS OVER 6.0m x 6.0m)
INCREASE DEPTH BY 30%

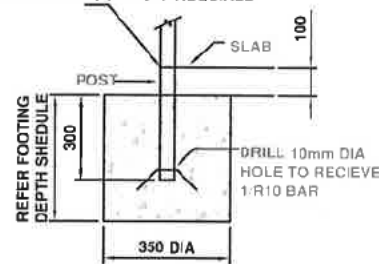


LEG CAST INTO FOOTING

EDGE FORM MAY BE MOVED OUT TO OUTER FACE OF FOOTING IF REQUIRED

FOOTING DEPTH

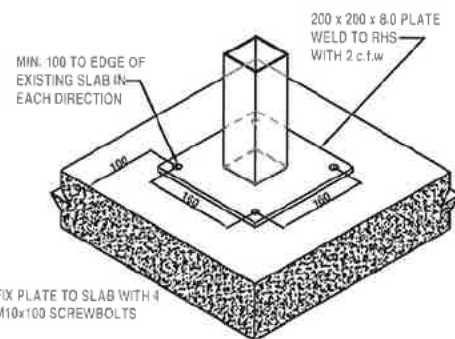
N2	N3/C1	N4/C2
450mm	600mm	750mm



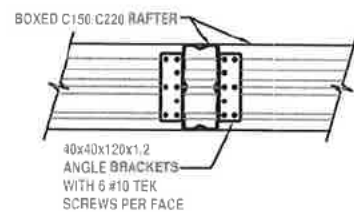
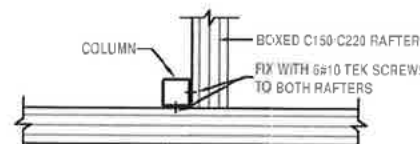
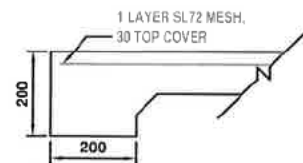
LEG CAST INTO FOOTING WITH SLAB ON TOP

SCREW AMOUNTS PER CONNECTION
(FOR CONNECTION OF RHS TO SLEEVE)

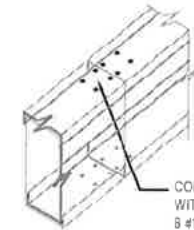
ROOF AREA	N2/N3	N4/C1/C2
<6.0m x 6.0m	4 x #12 TEKS	8 x #12 TEKS
>6.0m x 6.0m	8 x #12 TEKS	12 x #12 TEKS



COLUMN FIXING TO SLAB

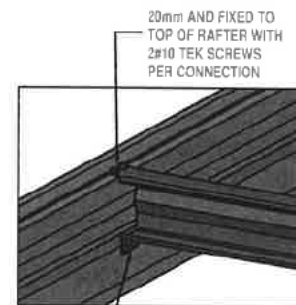
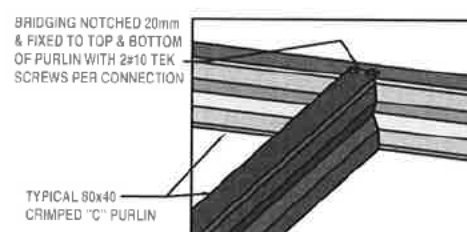
DETAIL A
B150/B220 SIMILARDETAIL B
B150/B220 SIMILARDETAIL E
B150/B220 SIMILAR

EDGE THICKENING DETAIL

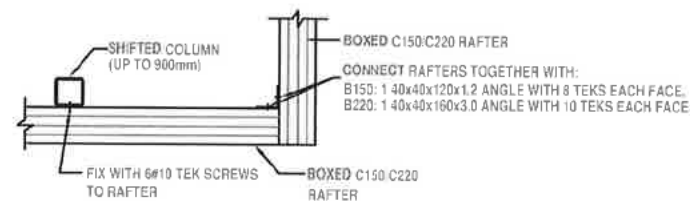


SPliced JOINTS

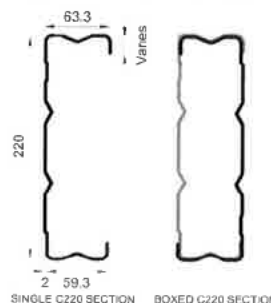
NOTE: SPliced JOINTS MAY BE AT ANY LOCATION ALONG THE LENGTH OF THE MAIN BEAM

DETAIL C
B150/B220 SIMILAR

DETAIL D

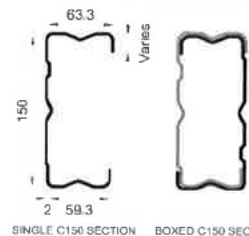
SHIFTED COLUMN CONNECTION
B150/B220 SIMILAR

C220/B220 SECTION



SINGLE C220 SECTION BOXED C220 SECTION

C150/B150 SECTION



SINGLE C150 SECTION BOXED C150 SECTION

RAFTER SCHEDULE

N2	N3/C1	N4/C2
B150 10	B150 15	B220 12
B150 10	BOXED C150 1.0 B.M.T	
B150 15	BOXED C150 1.5 B.M.T	
B220 12	BOXED C220 1.2 B.M.T	

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED FOR ANY FABRICATION OR ERECTION DETAILS.
 - AT SETOUT, DIAGONALS MUST BE CAREFULLY CHECKED TO ENSURE BUILDING IS SQUARE.
- LOADINGS
- THESE DESIGNS ARE BASED ON LEVEL OF IMPORTANCE FACTOR OF 2 AS STIPULATED IN AS/NZS 1170.0.
 - STRUCTURE IS DESIGNED USING AS 1170.2 : 2002 $C_{pi} \max = 1.0$
 - WIND CLASSIFICATION IN ACCORDANCE WITH AS 4055 : 2005. EQUIVALENT WIND CLASSIFICATION

CONCRETE

- SLAB / FOOTING DESIGN'S ARE APPROPRIATE TO 'A', 'S' & 'M' SITES.
- SERVICES OF AN EXPERIENCED CONSULTING ENGINEER SHOULD BE ENGAGED TO ADVISE ON SUITABILITY OF SOIL CONDITIONS.
- CONCRETE SHALL HAVE MAXIMUM AGGREGATE SIZE OF 20mm, SLUMP OF 80+-20 AND ULTIMATE COMPRESSION STRENGTH AT 28 DAYS OF 20 MPa.
- CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION AND BE COMPACTED BY EXTERNAL VIBRATION OR HAND TAMPING.
- FOOTING EXCAVATIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE MATERIAL BEFORE PLACING CONCRETE.
- FOUNDING MATERIAL SHALL HAVE SAFE BEARING CAPACITY OF 100kPa.
- POUR SLAB ON 50mm COMPACTED SAND AND 200um POLYTHENE WATERPROOF MEMBRANE (LAPPED 200 AND SEALED WITH APPROPRIATE TAPE). - OPTIONAL BUT RECOMMENDED

STEELWORK

- ALL STRUCTURAL FRAMING MEMBERS SHALL BE G550 - G450 GRADE STEEL U.N.O. AND ALL CLEATS SHALL BE G450 GRADE STEEL GALVANISED TO MIN Z200. POSTS SHALL BE G450. REFER DRAWING.
- ROOF SHEETING SHALL BE G550 GRADE STEEL PROTECTED WITH ZINCALUME AZ150. ROOF SHEETING CAN BE REPLACED WITH CLEAR ROOF 2400GSM PANEL FIXED TO MANUFACTURERS SPECIFICATIONS. A HIGHER GSM RATE MAY BE REQUIRED FOR SNOW AREA'S.
- PURLINS & BRIDGING TO BE EX. 80x40 LIPPED CRIMPED CHANNELS 0.75mm B.M.T.
- CLADDING SHEET IS TO BE FIXED AS FOLLOWS:-
7 RIB 0.35 B.M.T.
N2 & N3 - FIXED WITH #12x35 TEKS AT RAFTERS WITH 1 SCREW EVERY RIB AND ALTERNATE RIBS FOR ALL INTERMEDIATE PURLINS.
N4, C1 & C2 - FIXED AT CENTRE OF EACH PAN WITH M6.2-14 x 25mm TEKS AND 25mm DIA. BONDED CYCLONE WASHERS INTO ALL PURLINS. CORRUGATED 0.42 B.M.T.
N2 & N3 - FIXED WITH #12x35 TEKS AT EVERY SECOND CREST TO ALL PURLINS.
N4, C1 & C2 - FIXED WITH M6.2 14 x 55mm TEKS AND 25mm DIA. BONDED CYCLONE WASHERS AT EVERY SECOND CREST TO ALL PURLINS.
- NOTCH PURLINS AND FIX TO RAFTERS WITH 2 #10 TEKS PER FLANGE EACH END
- SCREWS CONNECTING STRUCTURAL MEMBERS TO BE WAFERTEKS No. 10 U.N.O. MANUFACTURED BY DEUTSCHER (OR EQUIVALENT) WITH MIN. EDGE DISTANCE OF 6mm AND MIN. PITCH OF 12mm.
- RIDGES, BARGES AND ALL PENETRATIONS TO BE FLASHED WITH 0.4mm ZINCALUME FINISHED STEEL.
- GUTTER AND DOWNPIPES TO BE FITTED AND DISCHARGED TO EXISTING STORMWATER SYSTEM. SPLICE GUTTER AT CENTRE OF BUILDING. PROVIDE TWO SCREWS INTO EACH WEB AND SEAL WITH SILICONE.
- STEELWORK SHALL ALL COMPLY WITH THE REQUIREMENTS OF:-
AS/NZS 1170.0, 1 & 2 : 2002 LOADING CODES
AS 4100 STEEL STRUCTURE CODES
AS/NZS 4600 : 2005 COLD FORMED STEEL STRUCTURE CODE
AS 1562 DESIGN AND INSTALLATION OF METAL ROOFING
AS 1111/1112 METRIC HEXAGON COMMERCIAL BOLTS AND SCREWS
AS 2313 GUIDE TO THE PROTECTION OF IRON AND STEEL
AS 3568 SELF DRILLING SCREWS FOR BUILDING & CONSTRUCTION INDS

ISSUED: JUNE 2008

VERMONT CONSULTANTS

Structural Consulting Engineers
PHONE: (07) 3264 8409
FAX: (07) 3264 2028
ADDRESS: 7 DOWNEY CT, ALBANY CREEK QLD 4035
P.O. BOX 533, ALBANY CREEK QLD 4035

I certify that buildings
erected in accordance
with these drawings will
comply with the Building
Code of Australia.

S.T. O'Leary
RPEQ 2426, CPEng 351935, EC16945, CC4000X

TOTALSPAN
VERSATILE BUILDINGS (AUSTRALIA) Pty Ltd
74 Platinum St Crestmead
Brisbane QLD 4132
PH: (07) 3827 8000 FAX: (07) 3803 2315

STEEL FRAMED BUILDINGS

N3/C1 V_{w57} m/sDOUBLE FLAT ROOF
CARPORT

ISSUED: JUNE 2008

JOB No. TSFCP-AUS

DRAWING No.

2 of 2

REVISION SUFFIX

AS CONSTRUCTED

DATE	AMENDMENT	DRAWN	DESIGNED	REVIEWED	APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	APPROVED BY	SIGNATURE	DATE
2.16	AS CONSTRUCTED	P.H.	P.H.		P.H.									
11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.		P.H.									

ASSET/PROJECT **GATTON S.T.P.**
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION

DRAWING TITLE
TOTALSPAN
CARPORT DETAILS

SHEET No. 5 OF 10
QUEENSLAND URBAN UTILITIES DRAWING No. **486/5/5-0304-305**
AMEND. **A**

J. & P. RICHARDSON
INDUSTRIES PTY LTD
ELECTRICAL CONTRACTORS AND ENGINEERS
ABN: 23 001 952 325
114 CAMPBELL AVE. MACOL QLD 4076

PH: (07) 3271 2811
FAX: (07) 3271 3623
EMAIL: jpr@jpr.com.au

JPR Project No.: P15-CB9875

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND
UrbanUtilities

ENGINEERING DOCUMENTS FOR PROPOSED WASTE WATER TREATMENT PLANT – TANK SLABS GATTON

CLIENT: J & P RICHARDSON INDUSTRIES PTY LTD

GENERAL NOTES:

- ALL STRUCTURAL DRAWINGS ARE PRELIMINARY UNLESS SIGNED IN TITLE BLOCK.
- ALL STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ARCHITECT/DESIGNER'S AND OTHER CONSULTANTS DRAWINGS. ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER IN WRITING.
- ALL SITE INSPECTIONS TO BE PERFORMED BY THE ENGINEER MUST BE BOOKED 24 HOURS PRIOR TO INSPECTION TIME.
- ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND/OR FABRICATION.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.
- DURING CONSTRUCTION THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING THAT NO CONSTRUCTION LOADS OVER STRESS ANY ELEMENTS OF THE STRUCTURE. IF UNSURE CONTACT ENGINEER FOR ADVICE.
- THE STRUCTURAL ELEMENTS HAVE BEEN DESIGNED TO CARRY THE FOLLOWING LIVE LOADS:

INTERNAL FLOORS -	1.5kPa / 1.8kN
BALCONIES LESS THAN 1000mm ABOVE GROUND -	1.5kPa / 1.8kN /
	1.5kN/m ALONG EDGE
BALCONY FLOORS 1000mm OR GREATER ABOVE GROUND -	2.0kPa / 1.8kN /
	1.5kN/m ALONG EDGE
STAIRS AND LANDINGS -	2.0kPa / 2.7kN
NON HABITABLE ROOF SPACES -	0.5kPa / 1.4kN
- ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH THE RELEVANT CURRENT AUSTRALIAN STANDARD CODES, BCA AND LOCAL STATUTORY AUTHORITY REQUIREMENTS.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. (U.N.O)
- OTHER THAN FOR THE PURPOSES AND SUBJECT TO THE CONDITIONS OF COPYRIGHT ACT, NO PART OF THESE DRAWINGS MAY BE REPRODUCED OR COPIED IN ANY FORM WITH PRIOR WRITTEN APPROVAL.

CONCRETE BLOCK MASONRY NOTES:

- ALL CONCRETE BLOCK MASONRY WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH THE RELEVANT CURRENT AUSTRALIAN STANDARD CODES AS3700 & OTHERS INCLUDED THEREIN.
- ALL CONCRETE MASONRY UNITS SHALL HAVE MINIMUM CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF $F_{uc}=15\text{MPa}$.
- MORTAR SHALL BE MIXED IN THE PROPORTIONS 1:1:6 CEMENT:HYDRATED LIME:MORTAR SAND BY VOLUME OR M3. MORTAR WITH HIGHER EXPOSURES SUCH AS WITHIN 1km OF A COASTLINE OR IN AGGRESSIVE SOILS SHALL BE MIXED IN THE PROPORTIONS 1:0.25:3 ADDITIVES SHALL NOT BE USED WITHOUT APPROVAL BY ENGINEER.
- GROUT FOR CORE FILLING SHALL BE IN ACCORDANCE WITH AS1379. STRENGTH=20MPa. MAXIMUM AGGREGATE SIZE IS 7mm. MAXIMUM SLUMP 200mm AND RODDED INTO PLACE WHERE NECESSARY TO ACHIEVE COMPACTION.
- ALL CORE FILLED MASONRY SHALL BE LAID WITH A BASE COURSE OF 'CLEAN-OUT' BLOCKS TO FACILITATE CLEANING OF EXCESS MORTAR. THE MAXIMUM HEIGHT OF CORE FILL PLACED AT ANY ONE TIME IS 2400mm.
- CONTROL JOINTS TO BE PLACED AT 6000mm MAXIMUM CENTRES (U.N.O), USING CONTROL TYPE BLOCKS. REFER TO MANUFACTURES SPECIFICATIONS.
- REINFORCING IS TO BE PLACED CENTRALLY (U.N.O. IE RETAINING WALL SITUATIONS).

FOUNDATION AND FOOTING/SLAB NOTES:

- REFER TO GEOTECHNICAL REPORT PREPARED REFERENCED ON FOOTING / SLAB PLANS FOR GEOTECHNICAL RECOMMENDATIONS.
- RETAIN AN EXPERIENCED ENGINEER TO INSPECT THE FOOTINGS/FOUNDATIONS TO CONFIRM ADEQUACY PRIOR TO PLACEMENT OF REINFORCING AND CONCRETE.
- ALL EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH AS3798-2007. ALL TOP SOIL INCLUDING ORGANIC MATERIAL TO BE CLEARED FROM BUILDING AREA BEFORE CONSTRUCTION STARTS. FILL PLACED AFTER THE ISSUE OF THE GEOTECHNICAL REPORT SHOULD BE CERTIFIED TO A LEVEL 1, IN ACCORDANCE WITH (AS3798-2007), AND BE DEEMED CONTROLLED FILL IN ACCORDANCE WITH (AS2870-1996) BY A RECOGNISED GEOTECHNICAL ENGINEER. FILL TO BE NON REACTIVE AND COMPACTED IN 150mm LAYERS AND COMPACTED TO ACHIEVE A MINIMUM OF 95% MAXIMUM DRY DENSITY. BASED ON STANDARD COMPACTION TESTS.
- THE FOOTING RECOMMENDATIONS GIVEN ARE IN ACCORDANCE WITH AS2870 (INCLUDING AMENDMENTS) AND ARE BASED ON THE GEOTECHNICAL REPORT. THE RECOMMENDATIONS HAVE PROVEN SATISFACTORY IN PERFORMANCE UNDER 'NORMAL CONDITIONS' ON SIMILAR SOILS. REFER AS2870 SECTION 1.3.3 FOR THE DEFINITION OF 'ABNORMAL CONDITIONS'. ALTERNATIVE FOOTING TYPES MAY BE SUITABLE AND DETAILS WILL BE PROVIDED IF REQUESTED. DETAILS OF OTHER PROPOSED OR EXISTING STRUCTURES NOT EVIDENT ON THE PLANS SUPPLIED (E.G POOLS, RETAINING WALLS, SEWERS MAINS, TREES ETC.) AND CLOSE TO THE PROPOSED DWELLING WILL NEED TO BE BROUGHT TO OUR ATTENTION SO THAT THE DESIGN CAN ADDRESS THE LIMITING FACTORS ASSOCIATED WITH THE PROXIMITY OF THE OTHER STRUCTURES.
- SITE DRAINAGE PROTECTING THE SOIL FROM EXCESSIVE WETTING IS VERY IMPORTANT AND ALL STORM WATER RUNOFF MUST BE DIRECTED AWAY FROM THE FOOTINGS. SLOPING CONCRETE OR BITUMEN PAVING AWAY FROM THE HOUSE IS ALSO RECOMMENDED. GARDENS, LARGE TREES AND SHRUBS MUST BE KEPT AWAY FROM THE FOOTINGS. SEEPAGE WATER OCCURRING ON SLOPING OR EXCAVATED SITES MUST BE PREVENTED FROM REACHING FOOTINGS BY THE CONSTRUCTION OF CUTOFF DRAIN(S). REFER AS2870 APPENDIX B FOR FURTHER INFORMATION REGARDING MAINTENANCE.
- MINOR CRACKING MAY OCCUR AS A RESULT OF FACTORS NOT ASSOCIATED WITH SOIL MOVEMENTS. CONTROL JOINTS IN BRICKWORK AND BETWEEN DIFFERENT EXTERNAL MATERIALS ARE OF SIGNIFICANT ADVANTAGE IN REDUCING CRACKING AND MUST BE INCORPORATED WHEREVER POSSIBLE.
- ALL DRAINAGE TRENCHES MUST BE CONSTRUCTED A MINIMUM OF 1200mm FROM THE OUTSIDE EDGE OF THE FOOTING. IF SITE RESTRICTIONS MAKE THIS IMPOSSIBLE, ADDITIONAL DEPTH BY WAY OF PIERS WILL BE REQUIRED UNDER THE FOOTINGS WITHIN 1200mm OF DRAINAGE TRENCHES.
- AREAS OF MODERATELY, HIGHLY AND EXTREMELY REACTIVE SOILS, (M, H AND E CLASS SITE CLASSIFICATIONS) IT IS RECOMMENDED THAT FLEXIBLE SEWER JOINTING IS USED.
- FOOTING CONCRETE STRENGTH TO BE 25MPa. COVER TO FOOTING REINFORCING STEEL IS 40mm. REINFORCING STEEL IS TO BE SUPPORTED IN ITS CORRECT POSITION BY APPROVED PLASTIC CHAIRS AND/OR SPACERS. THE LAP LENGTH OF BAR SPLICES SHALL BE NOT LESS THAN 500mm. AT T AND L INTERSECTIONS THE BARS SHALL BE CONTINUED ACROSS THE FULL WIDTH OF THE INTERSECTION. AT L INTERSECTIONS, ONE OUTER BAR SHALL BE BENT AND CONTINUED FOR 500mm OR A BENT CORNER BAR 500mm LONG EACH LEG SHALL BE PROVIDED AT ALL LEVELS OF FOOTING REINFORCING.
- CONCRETE MUST BE POURED AS CLOSE AS POSSIBLE TO ITS FINAL POSITION, PENCIL VIBRATED AND CURED FOR AT LEAST SEVEN DAYS BY CONTINUOUS WETTING OR BY A SUITABLE CURING COMPOUND.
- SLAB CONCRETE STRENGTH TO BE 25 MPa AND TO BE REINFORCED WITH 1 LAYER OF MESH PLACED 30mm FROM TOP FACE AND SUPPORTED ON BAR CHAIRS AT 1000mm CENTRES IN BOTH DIRECTIONS. IN AREAS WHERE CERAMIC FLOOR TILES ARE USED WE RECOMMEND THE USE OF A FLEXIBLE BEDDING COMPOUND UNDER THE TILES. VAPOUR BARRIER IS TO BE PLACED UNDER ENTIRE SLAB.

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *R. Miotti* DATE: 17-2-16
 NAME OF SIGNATORY: ROBERT MIOTTI
 RPEQ No. or LICENCE: C19972
 COMPANY NAME: J & P RICHARDSON Ind.
 START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
 INDUSTRIES PTY LTD
 ELECTRICAL CONTRACTORS AND ENGINEERS
 A.B.N. 23 001 952 325
 114 CAMPBELL AVE. MACOL QLD 4076
 PH. (07) 3271 2611
 FAX. (07) 3271 3623
 EMAIL: jpr@jpr.com.au

JPR Project No.: P15-CB9875

NAME SIGNATURE DATE
 QUEENSLAND URBAN UTILITIES DELEGATE
 (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

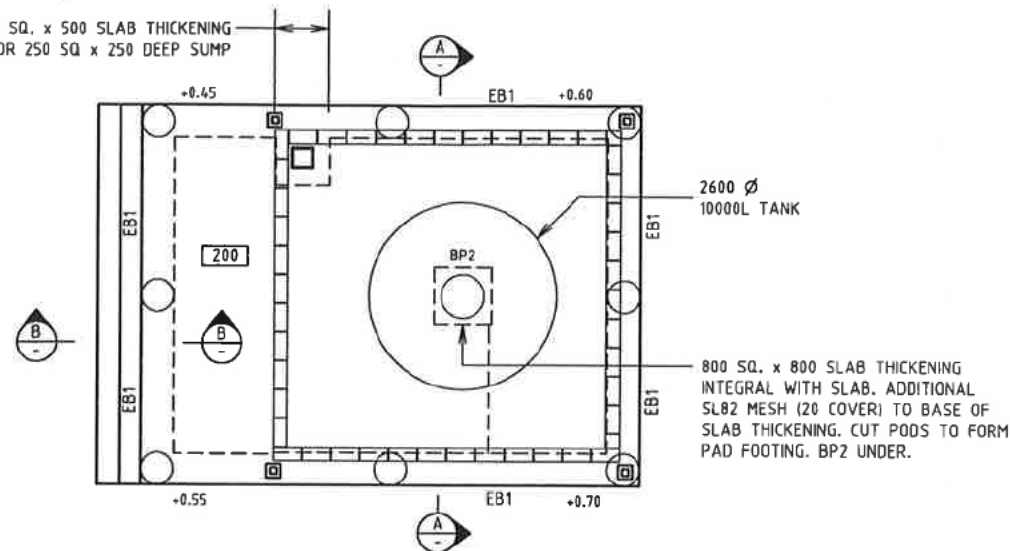
QUEENSLAND UrbanUtilities

SHEET No. 6 OF 10
 QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0304-306 **A**

AS CONSTRUCTED

						FUNDING			DRAFTED		P. HOUSTON		Scott Fairley				8429		24-8-15		ASSET/PROJECT GATTON S.T.P. TREATMENT PLANT ROAD HYPOCHLORITE TANK INSTALLATION				DRAWING TITLE CONCRETE SLAB & BUND DETAILS				SHEET No. 6 OF 10 QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0304-306 AMEND. A			
A	2.16	AS CONSTRUCTED	P.H.	P.H.	P.H.	DESIGN W.O. No.		DRAFTING CHECK	P. HOUSTON	DESIGN	R.P.E.Q. No.	DATE	APPROVED BY	SIGNATURE	DATE																	
O	11.16	ISSUED FOR CONSTRUCTION	P.H.	P.H.		CONSTRUCTION W.O. No.		CAD FILE	56034306-ADWG	ORIGINAL SIGNED BY																						
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE																	
1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		

750 SQ. x 500 SLAB THICKENING
FOR 250 SQ x 250 DEEP SUMP



FOOTING/SLAB PLAN - GATTON

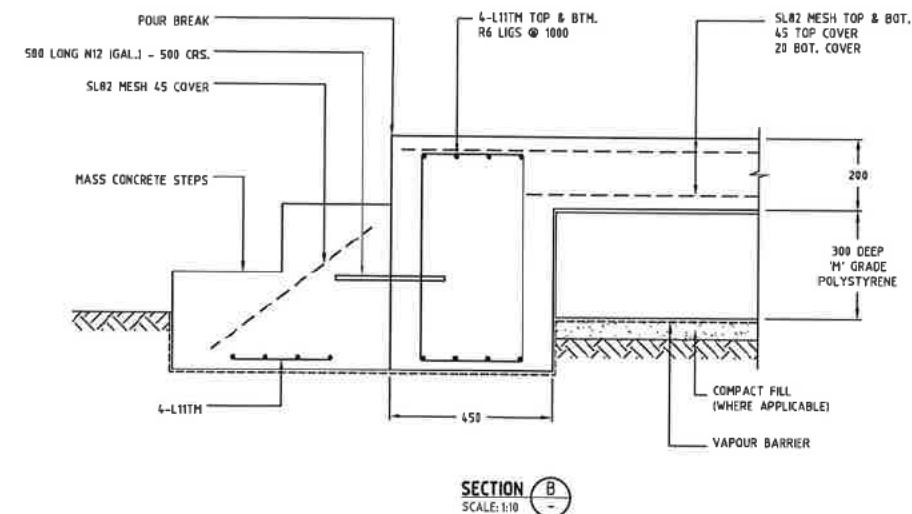
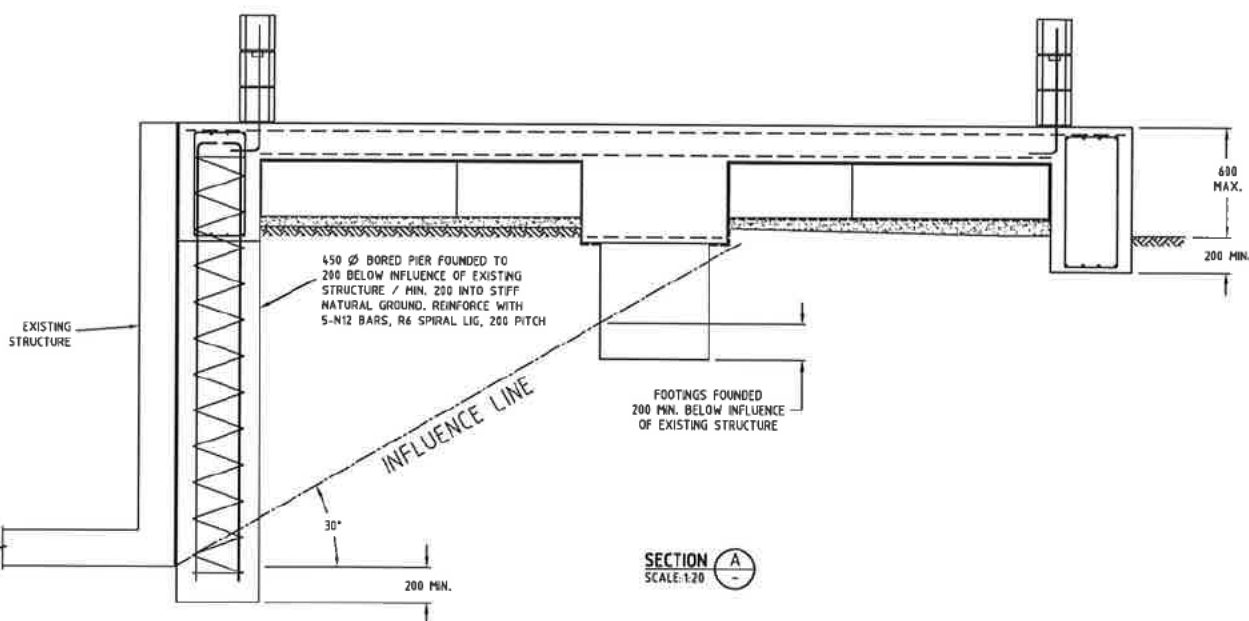
SCALE 1:50

REFER TO SITE

INVESTIGATION BY: APOD SOIL TESTING PTY. LTD. JOB No. 15-04-25844

FOUNDATION NOTE:

FOUNDING MATERIAL - WEATHERED ROCK
ALLOWABLE BEARING CAPACITY - 500kPa



LEGEND

MARK	DESCRIPTION
○	450 Ø BORED PIER FOUNDED TO 200 BELOW INFLUENCE OF EXISTING STRUCTURE AND ONTO WEATHERED ROCK WITH AN ALLOWABLE BEARING CAPACITY OF 500 kPa. REINFORCE WITH 5-N12 BARS, R6 SPIRAL LIG, 200 PITCH WHERE PIER DEPTH EXCEEDS 1800.
○	600 Ø BORED PIER FOUNDED TO 200 BELOW INFLUENCE OF EXISTING STRUCTURE AND ONTO WEATHERED ROCK WITH AN ALLOWABLE BEARING CAPACITY OF 500 kPa. REINFORCE WITH 5-N16 BARS, R6 SPIRAL LIG, 200 PITCH WHERE PIER DEPTH EXCEEDS 2400.
200	DENOTES SLAB THICKNESS (I.E. 200mm)

NOTE:

- THIS DESIGN DOES NOT TAKE INTO ACCOUNT TREES, OVERLAND FLOWS, POTENTIAL FLOODING, ANY UNDERGROUND INFRASTRUCTURE (UNLESS SHOWN). IF ANY OF THESE AFFECT THIS SITE, PLEASE CONTACT ENGINEER FOR AN ALTERNATE DESIGN.
- BUILDER TO CONFIRM DEPTHS AND LOCATIONS OF ALL EXISTING SERVICES PRIOR TO CONSTRUCTION.
- IF NEW STRUCTURE UNDERMINES OR SURCHARGES ANY EXISTING FOOTINGS OR STRUCTURES, BUILDER TO CONTACT ENGINEER FOR ADVICE

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *Robert Mioti* DATE: 17-2-16
NAME OF SIGNATORY: ROBERT MIOTTI
RPEQ No. or LICENCE: C10972
COMPANY NAME: J & P RICHARDSON Ind.
START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
INDUSTRIES PTY LTD
ELECTRICAL CONTRACTORS AND ENGINEERS
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Email: jpr@jpr.com.au

JPR Project No.: P15-CB9875

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. 7 OF 10
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0304-307 **A**

AS CONSTRUCTED

ASSET/PROJECT **GATTON S.T.P.**
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION

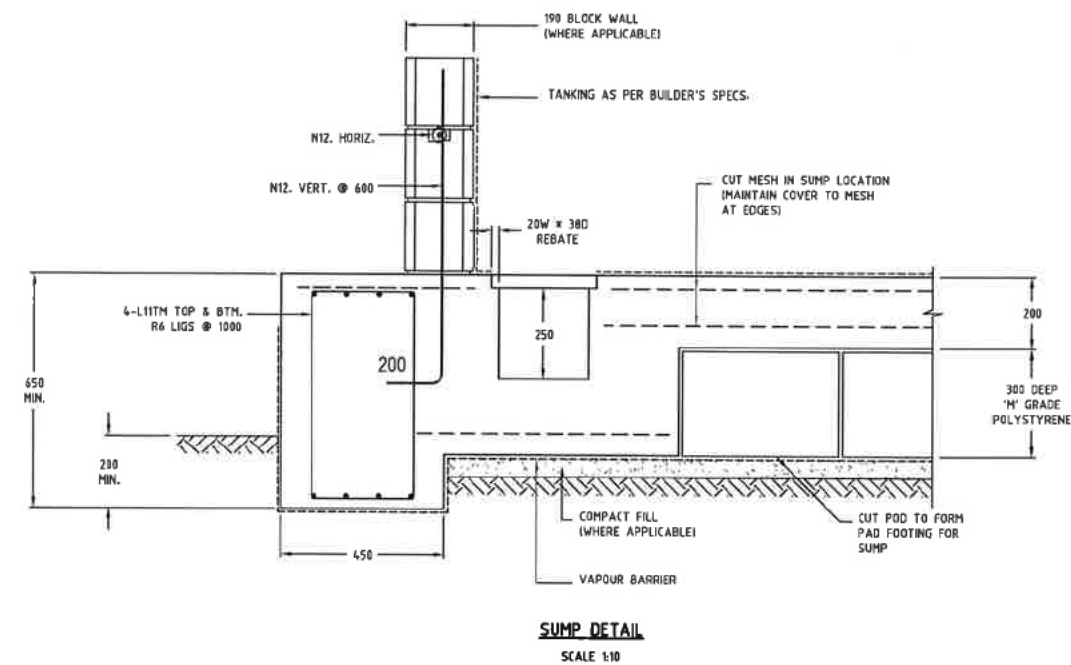
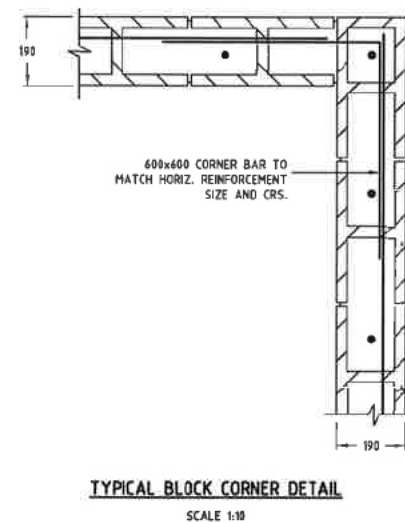
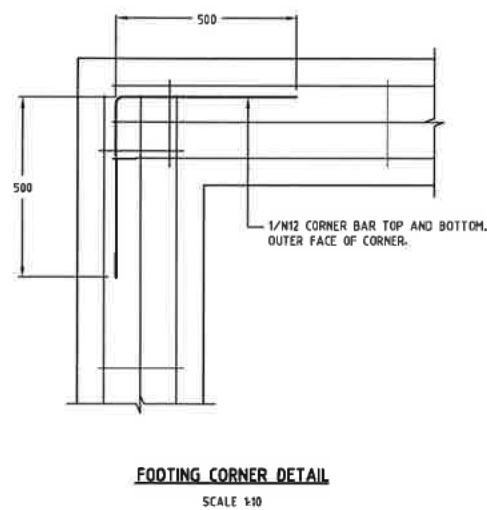
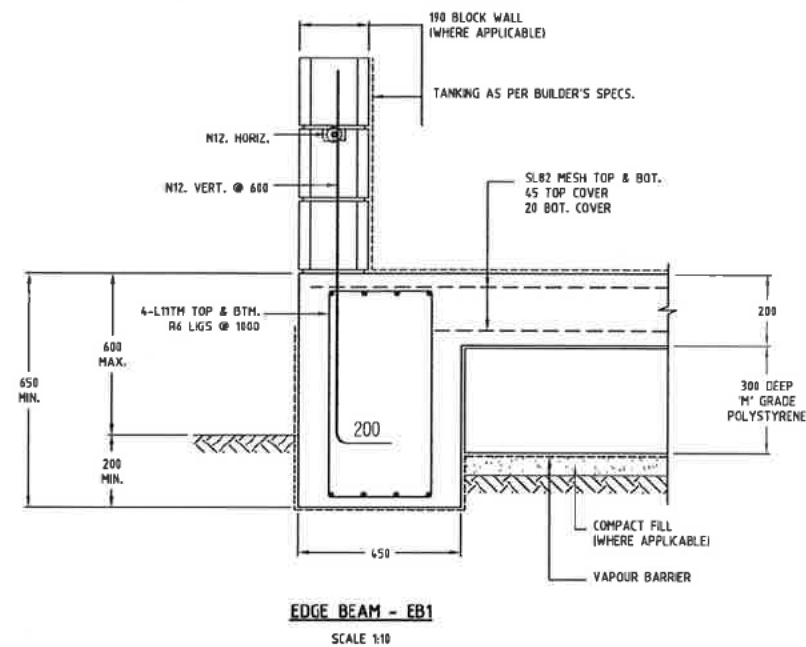
DRAWING TITLE
CONCRETE SLAB
& BUND DETAILS

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE
A	2.18	AS CONSTRUCTED	P.H.	P.H.		P.H.	DESIGN W.O. No.			DRAFTING CHECK	P. HOUSTON				
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.		P.H.	CONSTRUCTION W.O. No.			CAD FILE	550304307-ADWG				

SCALE 1:50 U.N.O.
(A1 SHEET)
0 0.25 0.5 1.0
SCALE OF METERS

SCALE 1:20
(A1 SHEET)
0 0.2 0.4 0.6 0.8 1.0
SCALE OF METERS

SCALE 1:10
(A1 SHEET)
0 0.1 0.2 0.3 0.4 0.5
SCALE OF METERS



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *Robert Miotto* DATE: 17-2-16

NAME of SIGNATORY: ROBERT MIOTTO

RPEQ No. or LICENCE: C10972

COMPANY NAME: J & P RICHARDSON Ind.

START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
INDUSTRIES PTY LTD
ELECTRICAL CONTRACTORS AND ENGINEERS
A.B.N. 23 001 952 325
114 CAMPBELL AVE WACOL QLD 4076
PH: (07) 3271 2011
FAX: (07) 3271 3823
EMAIL: jpr@jpr.com.au

JPR Project No.: P15-CB9875

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. 8 OF 10

QUEENSLAND URBAN UTILITIES DRAWING No.

486/5/5-0304-308

AMEND. A

SCALE 1:10 U.N.O. (1:1 SHEET)
SCALE OF METERS

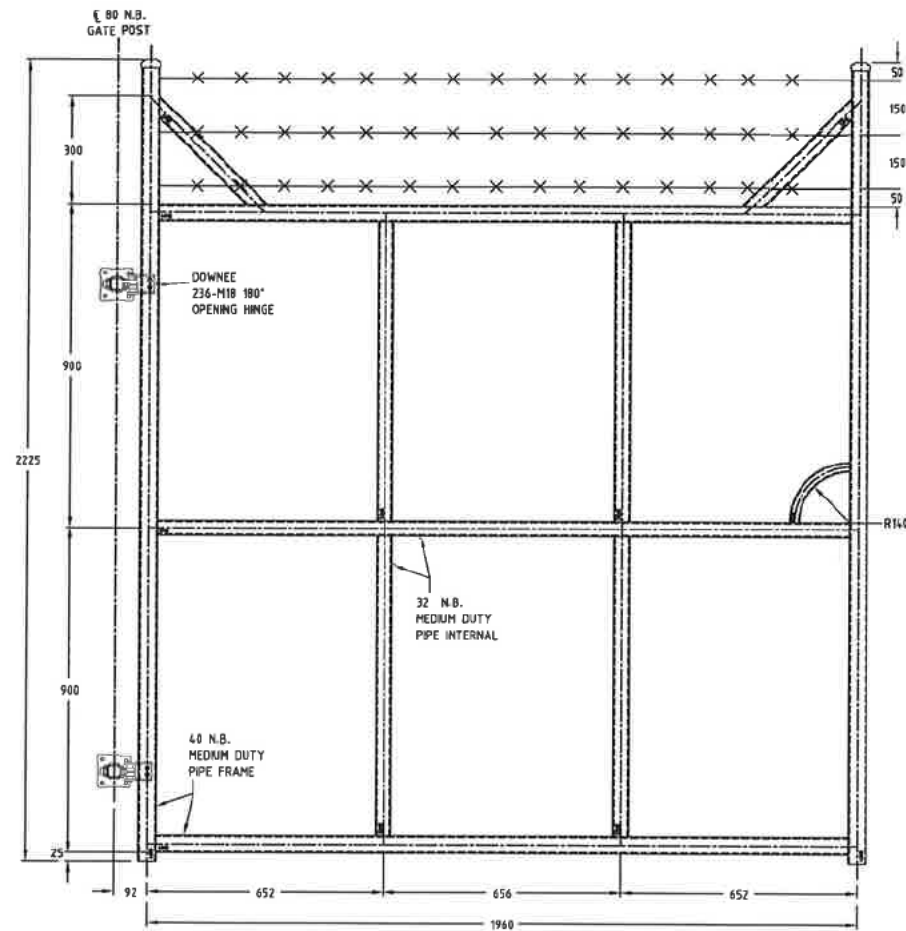
AS CONSTRUCTED

ASSET/PROJECT **GATTON S.T.P.**
TREATMENT PLANT ROAD
HYPPOCHLORITE
TANK INSTALLATION

DRAWING TITLE
CONCRETE SLAB
& BUND DETAILS

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE
A	2.16	AS CONSTRUCTED	P.H.	P.H.		P.H.	DESIGN W.O. No.			DRAFTED	P. HOUSTON	8423 24-8-15			
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.		P.H.	CONSTRUCTION W.O. No.			DRAFTING CHECK	P. HOUSTON				
										CAD FILE	590304308-A.DWG				
										ORIGINAL SIGNED BY					
										DESIGN CHECK					

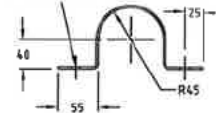
NOTE:
TO BE CONSTRUCTED IN ACCORDANCE
WITH QUEENSLAND URBAN UTILITIES
DRAWING No.s 468/5/7 0217-001 & 002



DETAIL 1
SCALE: 1:10 303

SITE ACCESS GATES
No. REQUIRED: 2
FINISH: HOT DIP GALV.

1xDN12 HOLE CENTRAL
FOR FIXING TO PE TANK
BRACKET WITH M10 316SS BOLTS

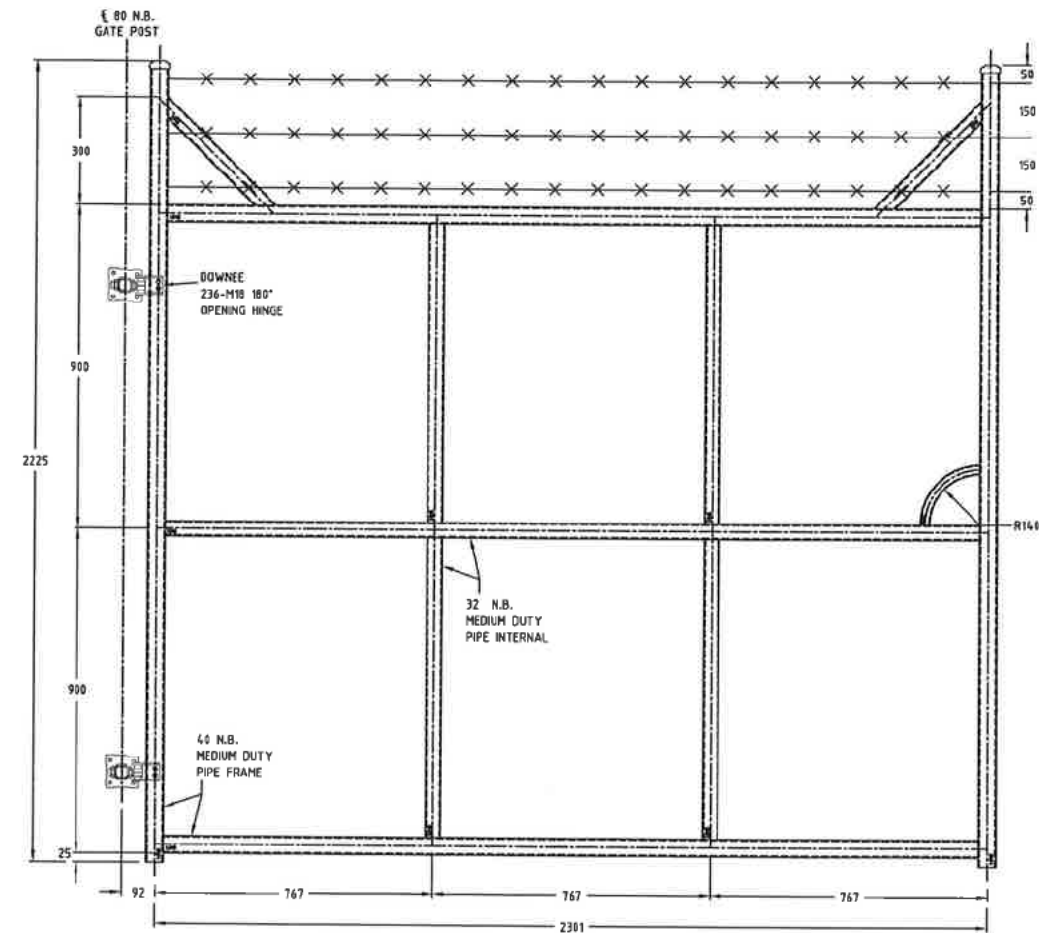


DETAIL 3
SCALE: 1/5

OVERFLOW PIPE SUPPORT BRACKET

QTY: 1
MATERIAL: 50x6 MS FLAT
FINISH: HOT DIP GALVANISED

NOTE:
TO BE CONSTRUCTED IN ACCORDANCE
WITH QUEENSLAND URBAN UTILITIES
DRAWING No.s 468/5/7 0217-001 & 002



DETAIL 2
SCALE: 1:10 331

BUND ACCESS GATES
No. REQUIRED: 2
FINISH: HOT DIP GALV.

AS CONSTRUCTED DETAILS


I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: K. M. Smith DATE: 17-2-16

NAME of SIGNATORY: ROBERT MIOTTI

RPEQ No. or LICENCE: C19072

START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016



J. & P. RICHARDSON
INDUSTRIES PTY LTD
ELECTRICAL CONTRACTORS AND ENGINEERS
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PH. (07) 3271 2911
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EMAIL. info@icr.com.au

JPR Project No.: P15-C89875

NAME	SIGNATURE	DATE
QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)		



SHEET No. 9 OF 10

QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
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486/5/5-0304-309 A

A

					FUNDING		DRAFTED	P. HOUSTON	P. HOUSTON		20-7-15						
A	2 16	AS CONSTRUCTED	P.H.	P.H.	P.H.	DESIGN W.O. No.	DRAFTING CHECK	P. HOUSTON	DESIGN	R.P.E.Q. No.	DATE	APPROVED BY	SIGNATURE	DATE			
O	11 15	ISSUED FOR CONSTRUCTION	P.H.	P.H.	P.H.	CONSTRUCTION W.O. No.	CAD FILE	550394309-A.DWG	ORIGINAL SIGNED BY								
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	R.P.E.Q. No.	APPROVED	FUNDED BY Q.U.U. ()	EXTERNAL ()	Q.U.U. FILE No.			DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE

SCALE 1:10 U.M.O.
(A1 SHEET)

SCALE OF METERS

SCALE 1:5
(A1 SHEET)

0.05 0 0.05 0.1 0.15 0.2 0.25

SCALE OF METERS

AS CONSTRUCTED

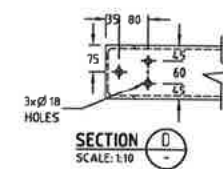
ASSET/PROJECT **GATTON S.T.P.
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION**

DRAWING TITLE

MISCELLANEOUS
COMPONENTS



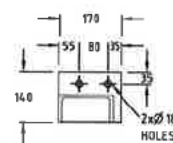
NOTE:
PROTECTIVE COATING TO
BE APPLIED TO BASES
OF STAIRS & SUPPORTS
TO PREVENT CORROSION



NOTES:

1. GRATING IS G2561GY FRP GRATING
2. TREADS ARE T5/G3861GY FRP 612Lg x 232W
FIXED WITH C130SM (TOP), C312SM (BOTTOM) CLIP SETS
3. THE GRADE OF STRUCTURAL STEEL SHALL BE AS FOLLOWS
UNLESS STATED OTHERWISE:

SECTION	GRADE (MPa)
HOT ROLLED SECTIONS	300
CIRCULAR HOLLOW SECTIONS	350
SQUARE HOLLOW SECTIONS	350
RECTANGULAR HOLLOW SECTIONS	350
PLATE	250
4. WELDING SHALL BE DONE IN ACCORDANCE WITH AS1554
5. UNLESS STATED OTHERWISE:
 - ALL WELDS SHALL BE STRUCTURAL PURPOSE
 - WELDING ELECTRODE SHALL BE E41XX
 - ALL FILLET WELDS SHALL BE 6mm CONTINUOUS
 - ALL BUTT WELDS SHALL BE FULL PENETRATION
 - ALL BOLTS SHALL BE M16 8.0/s U.N.O.
 - TREAD FIXING BOLTS SHALL BE M12 4.6/s
 - SWITCHBOARD FIXING BOLTS SHALL BE M10 4.6/s
6. ALL BOLTS, NUTS, & WASHERS TO BE GALVANISED U.N.O.
7. ALL FIXING ANCHORS TO BE GRADE 316SS
8. UNLESS STATED OTHERWISE, ALL STEEL WORK SHALL BE
HOT DIP GALVANISED (600/m²)
9. STAIRS COMPLY TO AS.1657 SECTION 4



MATERIAL: 75x75x4 SHS, 10mm PLATE
FINISH: HOT DIP GALV.
No. REQUIRED: 2



MATERIAL: 75x75x4 SH5, 10mm PLATE
FINISH: HOT DIP GALV.
No. REQUIRED: 1 AS SHOWN, 1 OPPOSITE HAND



SECTION C
SCALE: 1:10

SCALE 1:10
(A1 SHEET)

0.1 0 0.1 0.2 0.3 0.4 0.5

SCALE OF METERS

AS CONSTRUCTED

B	2.16	AS CONSTRUCTED	P.H.	P.H.		P.H.	FUNDING		DRAFTED	P. HOUSTON
A	12.15	GRATING & STRINGERS AMENDED	P.H.	P.H.		P.H.	DESIGN W.O. No.		DRAFTING CHECK	P. HOUSTON
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.		P.H.	CONSTRUCTION W.O. No.		CAD FILE	580304310-B.DWG
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	BY	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	

P. NO. 101117071		20-7-15	
DESIGN	R.P.E.Q. No. DATE	APPROVED BY	SIGNATURE DATE
ORIGINAL SIGNED BY			
DESIGN CHECK	R.P.E.Q. No. DATE	CONSTRUCTION MANAGER	SIGNATURE DATE

ASSET/PROJECT **GATTON S.T.P.
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION**

DRAWING TITLE

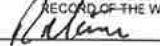
**BUND
ACCESS STAIRS**


SHEET No. 10 OF 10	
QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND
486/5/5-0304-310	B



GATTON S.T.P. TREATMENT PLANT ROAD HYPOCHLORITE TANK INSTALLATION SITE COVER SHEET - MECHANICAL

DRAWING No.	Rev	DRAWING TITLE	Remarks
486/5/5-0304-330	B	DRAWING INDEX	AS CONSTRUCTED
486/5/5-0304-331	B	10,000L TANK & BUND PIPEWORK LAYOUT	AS CONSTRUCTED
486/5/5-0304-332	A	10,000L TANK DETAILS	AS CONSTRUCTED
486/5/5-0304-333	A	MATERIAL LIST	AS CONSTRUCTED
486/5/5-0304-334			
486/5/5-0304-335			
486/5/5-0304-336			
486/5/5-0304-337			
486/5/5-0304-338			
486/5/5-0304-339			
486/5/5-0304-340			
486/5/5-0304-341			
486/5/5-0304-342			
486/5/5-0304-343			
486/5/5-0304-344			
486/5/5-0304-345			

AS CONSTRUCTED DETAILS	
I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.	
SIGNED: 	DATE: 17-2-16
NAME of SIGNATORY: ROBERT MIOTTI	
RPEQ No. or LICENCE: C19972	
COMPANY NAME: J & P RICHARDSON Ind.	
START DATE: JUNE 2015	FINISH DATE: FEBRUARY 2016

	J. & P. RICHARDSON INDUSTRIES PTY LTD ELECTRICAL CONTRACTORS AND ENGINEERS A.B.N. 23 001 952 325 114 CAMPBELL AVE WACCA QLD 4676 Ph: (07) 3271 2911 Fax: (07) 3271 3623 Email: jpr@jpr.com.au
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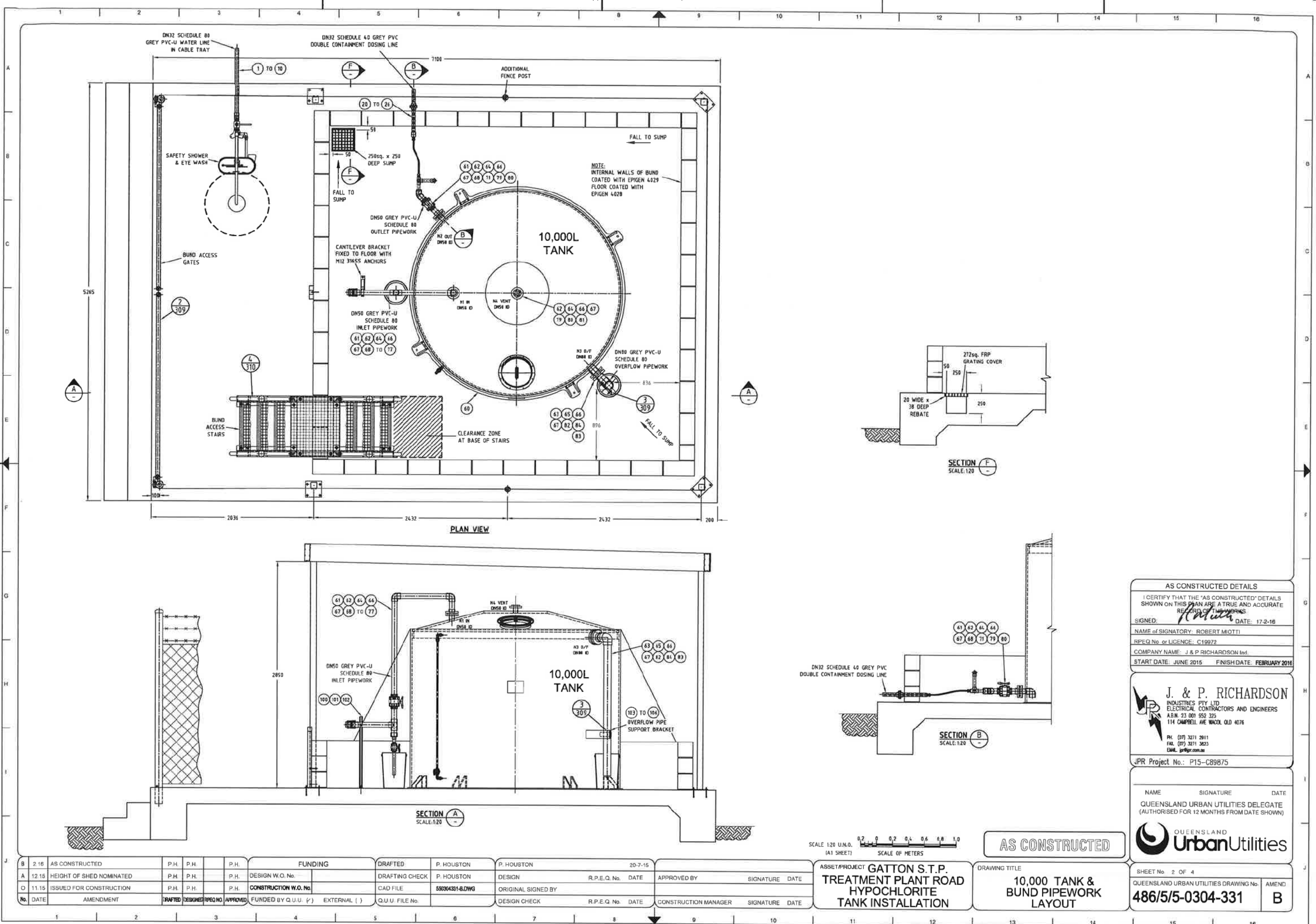
JPR Project No.: P15-CB9875

NAME	SIGNATURE	DATE
QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)		



AS CONSTRUCTED

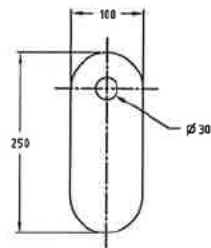
B	2.16	AS CONSTRUCTED	P.H.	P.H.	P.H.	FUNDING	DRAFTED	P. HOUSTON	P. HOUSTON	20-7-15	ASSET/PROJECT	GATTON S.T.P.	DRAWING TITLE	AS CONSTRUCTED	SHEET No. 1 OF 4
A	12.15	DRAWING 486/5/5-0304-331 AMENDED	P.H.	P.H.	P.H.	DESIGN W.O. No.	DRAFTING CHECK	P. HOUSTON	DESIGN	R.P.E.Q. No.	DATE	TREATMENT PLANT ROAD	DRAWING INDEX		QUEENSLAND URBAN UTILITIES DRAWING No.
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.	P.H.	CONSTRUCTION W.O. No.	CAD FILE	560304330-B.DWG	ORIGINAL SIGNED BY			HYPOCHLORITE			486/5/5-0304-330
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	TANK INSTALLATION			B



TANK FITTINGS					
NOZZLE	SIZE	SERVICE	DESCRIPTION	ORIENTATION	RADIUS FROM CENTRE OR HEIGHT (mm)
N1	DN50 (63mm)	INLET	63mm PE STUB FLANGE w/ GALV STEEL B/RING TABLE D	270°	R=800
N2	DN50 (63mm)	OUTLET	63mm PE STUB FLANGE w/ GALV STEEL B/RING TABLE D	315°	H=152
N3	DN80 (90mm)	OVERFLOW	90mm PE STUB FLANGE w/ GALV STEEL B/RING TABLE D	135°	H=1912
N4	DN50 (63mm)	VENT	63mm PE STUB FLANGE w/ GALV STEEL B/RING TABLE D	CENTRE	CENTRE
N5	INSPECTION HATCH	INSPECTION HATCH	455 THREADED INSPECTION HATCH	180°	R=630
N6	SIGHT GLASS	SIGHT GLASS	2x 20mm ADAPTORS, CLEAR PVC WITH GF BALL VALVE	225°	H=132, H=1932
NP	220x160	NAME PLATE	STANDARD FUSION NAMEPLATE	180°	H=1000

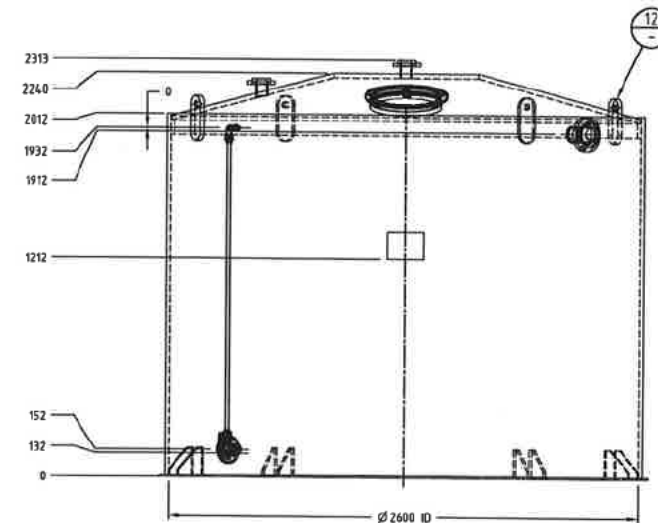
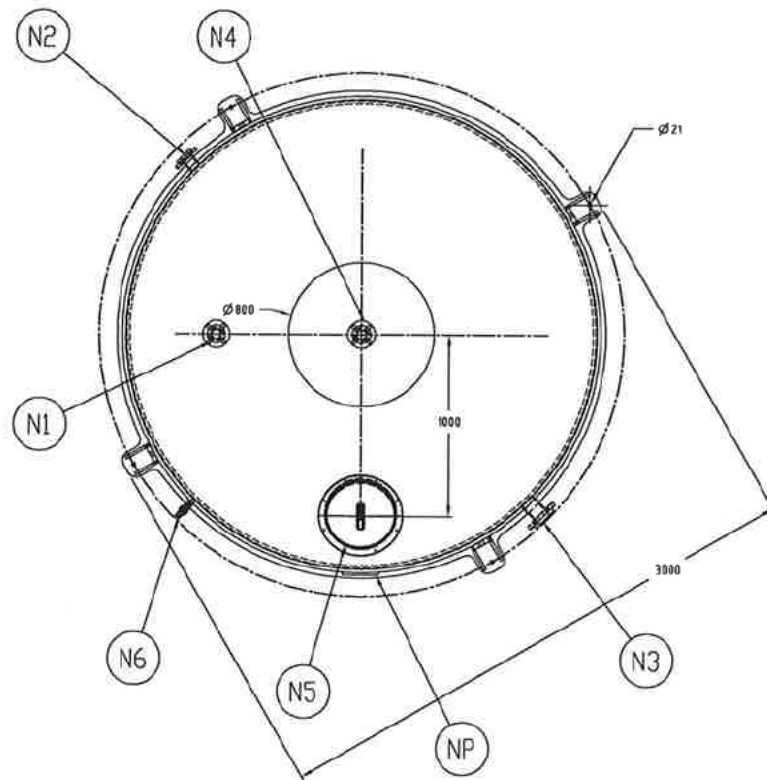
NOZZLE SIZE	PROJECTION (mm)
DN15-DN50 (20mm - 63mm)	80mm
DN65 - DN100 (75 - 110mm)	100mm
DN125 - DN200 (140 - 225mm)	150mm
DN250 (250mm) AND ABOVE	200mm

TANK DESIGN DETAILS	
DATE OF MANUFACTURE	AUGUST 2015
MATERIAL OF CONSTRUCTION	HDPE
TANK No.	PW2150 A
DESIGN STANDARD	DVS 2205
DESIGN PRESSURE	ATMOSPHERIC
DESIGN TEMPERATURE	30° C
DESIGN DENSITY OF LIQUIDS	1.2
CHEMICAL REDUCTION FACTOR	1.9
TANK DESIGN CAPACITY	5,000 L
DESIGN CONTENTS	SODIUM HYPOCHLORITE 12.5% w/v
DESIGN LOCATION	GATTON, QLD



DETAIL 12
SCALE: 1:5

TANK LIFTING LUG
MATERIAL: 20mm THICK HDPE
QTY: 4



AS CONSTRUCTED DETAILS	
I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.	
SIGNED:	DATE: 17-2-16
NAME of SIGNATORY: ROBERT MIOTTI	
RPEQ No. or LICENCE: C19972	
COMPANY NAME: J & P RICHARDSON Ind.	
START DATE: JUNE 2015	FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
INDUSTRIES PTY LTD
ELECTRICAL CONTRACTORS AND ENGINEERS
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114 CAMPBELL AVE MACOL QLD 4076
PH. (07) 3271 2911
FAX. (07) 3271 3623
EMAIL: jpr@jpr.com.au

JPR Project No.: P15-C89875

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. 3 OF 4
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0304-332
AMEND. A

FUNDING		DRAFTED		P. HOUSTON		20-7-15	
A	2-16	AS CONSTRUCTED	P.H.	P.H.	P.H.	DESIGN W.O. No.	
O	11-15	ISSUED FOR CONSTRUCTION	P.H.	P.H.	P.H.	CONSTRUCTION W.O. No.	
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY Q.U.U. (✓) EXTERNAL ()
							Q.U.U. FILE No.

SCALE 1:20 U.N.O.
(A1 SHEET)
SCALE OF METERS

SCALE 1:5
(A1 SHEET)
SCALE OF METERS

AS CONSTRUCTED

ASSET/PROJECT GATTON S.T.P.
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION

DRAWING TITLE
10,000 TANK
DETAILS

SAFETY SHOWER

Item No.	Qty	Make & Number
1	1	PRATT MODEL SE607 SAFETY SHOWER & EYEWASH STATION
2	1	DN32 - DN25 BSP 316SS HEX. REDUCING NIPPLE
3	1	DN32 BSP 316SS FULL PORT BALL VALVE
4	1	DN32 Sch.40 GREY PVC SOCKET TO MALE BSP THREAD ADAPTER
5	25m	DN32 Sch.40 GREY uPVC PIPE
6	8	DN32 Sch.40 GREY uPVC 90deg. ELBOW
7	6	DN32 Sch.40 GREY uPVC 45deg. ELBOW
8	4	DN32 Sch.40 uPVC SOCKET UNION
9	1	DN32 Sch.40 GREY PVC SOCKET ADAPTER
10	1	DN32 Sch.40 GREY PVC SOCKET TO FEMALE BSP THREAD ADAPTER
11	1	DN32 - DN25 BSP 316SS HEX. REDUCING BUSH
12	1	DN25 COPPER COMPRESSION FITTING
13	1	DN25 BSP 316SS BALL VALVE
14	2	DN25 BSP BRASS 90deg. ELBOW
15	1	DN25 BSP BRASS 90deg. TEE
16	4	DN25 COPPER COMPRESSION JOINERS

DOSING LINE FROM BUND

Item No.	Qty	Make & Number
20	1	DN50 - DN15 Sch.40 GREY uPVC REDUCING BUSH
21	2	DN15 Sch.40 GREY uPVC TOE NIPPLE
22	2	GRUNDFOS PVC PIPE CONNECTOR PART No.95712035
23	27m	GRUNDFOS CHEMICAL DELIVER TUBE PART No.96653571
24	25m	DN32 Sch.40 GREY uPVC PIPE
25	12	DN32 Sch.40 GREY uPVC 90deg. ELBOW
26	3	DN32 Sch.40 GREY uPVC 45deg. ELBOW
27	4	DN32 Sch.40 uPVC SOCKET UNION

MISCELLANEOUS

Item No.	Qty	Make & Number
100	1	EZYSTRUT CB4-900S 316SS CANTILEVER BRACKET
101	1	EZYSTRUT E5-60S 316SS PIPE CLAMP
102	2	M12x100 316SS METRIC MECHANICAL ANCHORS
103	1	OVERFLOW PIPE SUPPORT BRACKET TO DETAIL 1 ON DWG No.486/5/5-0304-309
104	2	M10x50 316SS METRIC HEX HEAD SET BOLTS
105	2	M10 316SS METRIC NUTS
106	4	M10 316SS METRIC FLAT WASHERS
107	1	PWS CP13/Y DROPOVER CABLE PROTECTOR 275 WIDE x 35 HIGH

SODIUM HYPOCHLORITE TANK & BUND PIPEWORK

Item No.	Qty	Make & Number
60	1	FUSION 10,000L HDPE TANK
61	2	DN50 Sch.80 GREY uPVC FULL FACE SOCKET FLANGE AS.2129 TABLE D
62	2	DN50 3mm VITON RUBBER INSERTION GASKET AS.2129 TABLE D
63	1	DN80 3mm VITON RUBBER INSERTION GASKET AS.2129 TABLE D
64	8	M16 x 100 316SS METRIC HEX HEAD BOLTS
65	4	M16 x 120 316SS METRIC HEX HEAD BOLTS
66	12	M16 316SS METRIC NUTS
67	24	M16 316SS METRIC FLAT WASHERS
68	2.5m	DN50 Sch.80 GREY uPVC PIPE
69	2	DN50 Sch.80 GREY uPVC 90deg. ELBOW
70	1	DN50 Sch.80 GREY uPVC 45deg. ELBOW
71	2	DN50 Sch.80 uPVC GEORG FISCHER DOUBLE UNION BALL VALVE c/w VITON SEALS
72	1	DN50 Sch.80 GREY uPVC TEE
73	1	DN50 - DN25 Sch.80 GREY uPVC REDUCING COUPLING
74	1	DN50 Sch.80 GREY uPVC SOCKET/BSP FEMALE ADAPTER
75	1	DN50 POLYPROPYLENE CAMLOCK TYPE F (BSP THREAD)
76	1	DN50 POLYPROPYLENE CAMLOCK DUST CAP TYPE DC
77	1.5m	DN25 Sch.80 uPVC PIPE
78	1	DN25 Sch.80 uPVC GEORG FISCHER DOUBLE UNION BALL VALVE c/w VITON SEALS
79	1	DN25 Sch.80 GREY uPVC 45deg. ELBOW
80	1	DN50 - DN25 Sch.80 GREY uPVC REDUCING BUSH
81		SPARE
82	1	DN80 Sch.80 GREY uPVC FULL FACE SOCKET FLANGE TABLE D
83	1	DN80 Sch.80 GREY uPVC 90deg. ELBOW
84	2m	DN80 Sch.80 uPVC PIPE

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 17-2-16

NAME of SIGNATORY: ROBERT MIOTTI

RPEQ No. or LICENCE: C19872

COMPANY NAME: J & P RICHARDSON Ind.

START DATE: JUNE 2015 FINISH DATE: FEBRUARY 2016

J. & P. RICHARDSON
INDUSTRIES PTY LTD
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EMAIL: jpr@jpr.com.au

JPR Project No.: P15-C89875

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. 4 OF 4
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0304-333 **A**

AS CONSTRUCTED

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY Q.U.U. (✓) EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE
A	2.16	AS CONSTRUCTED	P.H.	P.H.		P.H.	DESIGN W.O. No.		DRAFTED	P. HOUSTON	20-7-15	P. HOUSTON		
O	11.15	ISSUED FOR CONSTRUCTION	P.H.	P.H.		P.H.	CONSTRUCTION W.O. No.		DRAFTING CHECK	P. HOUSTON		DESIGN		
									CAD FILE	550304333-A.DWG		ORIGINAL SIGNED BY		
												DESIGN CHECK		

ASSET/PROJECT **GATTON S.T.P.**
TREATMENT PLANT ROAD
HYPOCHLORITE
TANK INSTALLATION

DRAWING TITLE
MATERIAL LIST