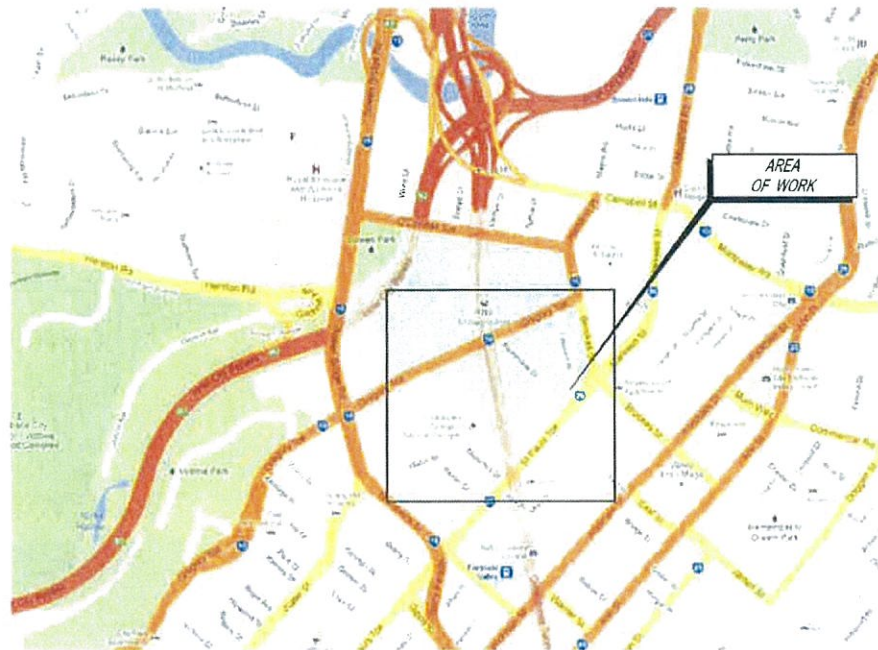


ALEXANDRIA STREET TRUNK SEWER RNA SHOWGROUND REDEVELOPMENT CONSTANCE STREET, FORTITUDE VALLEY



LOCALITY PLAN
NOT TO SCALE

REFER TO LAYOUT
PLANS FOR LEGEND

ABBREVIATIONS

AC - ASBESTOS CEMENT
CICL - CAST IRON CEMENT LINED
CISL - CAST IRON SPUN LINED
CR - CONCRETE REINFORCED
CTS - CUT TO SUIT
CUR - CONCRETE UN-REINFORCED
DI - DUCTILE IRON
DICL - DUCTILE IRON CEMENT LINED
DN - DIAMETER NOMINAL
EW - EARTHENWARE
FH - FIRE HYDRANT

MH - MAINTENANCE HOLE
mPVC - MODIFIED POLYVINYL CHLORIDE
MSBW - MILD STEEL BUTT WELD
MSCL - MILD STEEL CEMENT LINED
oPVC - ORIENTED PLASTICISED POLYVINYL CHLORIDE
PE - POLYETHYLENE
RTS - ROTATE TO SUIT
SC - STOP COCK/WATER METER
uPVC - UNPLASTICISED POLYVINYL CHLORIDE
VC - VITRIFIED CLAY
QUU - QUEENSLAND URBAN UTILITIES

ENGINEERING CERTIFICATION	
SIGNED: <i>[Signature]</i>	DATE: 02/07/2015
NAME OF SIGNATORY (PRINT): MARK HICKEY	
RPEQ NUMBER: 1649	
COMPANY NAME: Cardno Pty Ltd	

AS BUILT RECEIVED

BY	
OFFICER	
DATE	
GIS CAPTURE	
JOB NO.	
OFFICER CODE	
DATE	
GIS COMMENTS	

ALL WATER AND SEWER CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. PHONE 1300 369915

NOTE:- ALL ENVIRONMENT PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

DRAWING LIST - TRUNK SEWER

CARDNO DRAWING No	QUU DRAWING No	TITLE / DESCRIPTION
161163-050-CD-C-301-5550	486/5/6-0145-001	LOCALITY PLAN AND DRAWING LIST
161163-050-CD-C-301-5551	486/5/6-0145-002	NOTES AND TYPICAL TRENCH DETAIL
161163-050-CD-C-301-5552	486/5/6-0145-003	DETAILS AND KEY PLAN - SEWER TRUNK
161163-050-CD-C-301-5555	486/5/6-0145-004	LAYOUT PLAN
161163-050-CD-C-301-5560	486/5/6-0145-005	LOGITUDINAL SECTION LINE No.22
161163-050-CD-C-301-5570	486/5/6-0145-006	DETAILS SHEET 1
161163-050-CD-C-301-5571	486/5/6-0145-007	DETAILS SHEET 2
161163-050-CD-C-301-5572	486/5/6-0145-008	DETAILS SHEET 3
161163-050-CD-C-301-5573	486/5/6-0145-009	DETAILS SHEET 4
161163-050-CD-C-301-5580	486/5/6-0145-010	PIT 2/22 GENERAL ARRANGEMENT AND DETAILS
161163-050-CD-C-301-5581	486/5/6-0145-011	PIT 2/22 BASE AND ROOF SLAB BOTTOM AND TOP REINFORCEMENT PLANS
161163-050-CD-C-301-5582	486/5/6-0145-012	PIT 2/22 WALL ELEVATIONS AND SECTION

REFERENCE DRAWINGS

SEQ STD DRG NUMBER	TITLE / DESCRIPTION
SEQ-SEW-1200-2	EMBEDMENT & TRENCH TYPICAL ARRANGEMENT
SEQ-SEW-1201-1	TYPICAL STANDARD EMBEDMENT, FLEXIBLE & RIGID PIPES
SEQ-SEW-1301-5	"F" TYPE TYPICAL MAINTENANCE HOLE AND SLAB DETAILS
SEQ-SEW-1301-6	"X" TYPE - DEEP MAINTENANCE HOLE - TYPICAL ARRANGEMENT - SEWER ≤ Ø1200
SEQ-SEW-1301-7	"X" TYPE - DEEP MAINTENANCE HOLE - TYPICAL ARRANGEMENT - SEWER ≥ Ø1200
SEQ-SEW-1301-8	"X" TYPE - DEEP MAINTENANCE HOLE - TYPICAL ARRANGEMENT - SEWER ≤ Ø600 WITH DROP PIPE
SEQ-SEW-1301-9	"X" TYPE - DEEP MAINTENANCE HOLE - TYPICAL ARRANGEMENT - SEWER Ø675 TO Ø900 WITH DROP PIPE - AND SAFETY CHAIN DETAILS
SEQ-SEW-1301-10	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL JUNCTION DETAILS
SEQ-SEW-1301-11	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL TOP SLAB DETAILS
SEQ-SEW-1301-12	TYPICAL M.S. AND S.S. LADDER AND ASSOCIATED FITTINGS
SEQ-SEW-1303-4	TYPICAL STAINLESS STEEL BRACKETS FOR DN100 AND DN150 uPVC DROP PIPES
SEQ-SEW-1307-4	SULPHIDE CONTROL SEWER MAINTENANCE HOLE - PE LINED CUT-INS
SEQ-SEW-1308-8	MAINTENANCE HOLE COVER - SEWER - CLASS D - BOLT DOWN - TYPICAL BASE FRAME DETAILS
SEQ-SEW-1308-9	MAINTENANCE HOLE COVER - SEWER - CLASS D - BOLT DOWN - TYPICAL RING RISER DETAILS
SEQ-SEW-1308-10	MAINTENANCE HOLE COVER - SEWER - CLASS D - BOLT DOWN - TYPICAL COVER DETAILS
SEQ-SEW-1308-11	MAINTENANCE HOLE COVER - SEWER - CLASS D - BOLT DOWN - TYPICAL COVER DETAILS
SEQ-SEW-1407-1	POLYETHYLENE LINING - TOP SLAB AND WALL - TYPICAL DETAILS
SEQ-SEW-1407-2	POLYETHYLENE LINING - WALL PIPE PENETRATIONS - TYPICAL DETAILS
SEQ-SPS-1407-1	POLYETHYLENE LINING TOP SLAB & WALL TYPICAL DETAILS
SEQ-SPS-1407-2	POLYETHYLENE LINING WALL PIPE PENETRATION TYPICAL DETAILS

SEWER DISUSED				JOB No.		MH TYPE & No.		
LOCATION	SR No	DIA	TYPE	LENGTH	YEAR LAID	G	F	X
XXX STREET		XXX	XXX	XXm	XXXX	*	*	*

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

21 SEP 2015

MEDQ

AMENDMENT A

PAKEE BALA *[Signature]* DATE 05/07/15
QUEENSLAND URBAN UTILITIES DELEGATE
VALID FOR 12 MONTHS FROM DATE SHOWN

GOVERNMENT CLIENT PROJECT
CLIENT: Lend Lease & RNA
of Cardno Pty Ltd
CONTACT: Dale Stanton - 07 3310 2402
QUU AUDITOR: AUDIT & COMPLIANCE OFFICER
QUEENSLAND URBAN UTILITIES
CONTACT: Tony Facey 0412 436 570 (m)
B.C.C. DESIGN FILE No.

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY
QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE
OFFICER AT LEAST TWO (2) WEEKS PRIOR TO
COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY PH: 0412 436 570

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE
QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF
WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH: 3856 7033
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ORIGINAL SIGNED BY PAKEE BALA DATE 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

AS CONSTRUCTED DETAILS FOR AMEND.

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

SIGNED: DATE:
NAME OF SIGNATORY
RPEQ No. or LICENCE
COMPANY NAME
START DATE FINISH DATE



SHEET No. 1 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-001
AMEND. A

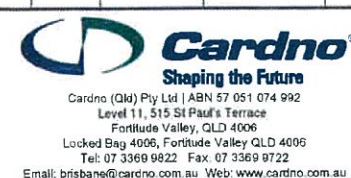
Drawn JM Checked DS Designed ZA Cardno Ref. No. A10697-050	Date Jun-15 Jun-15 Jun-15	Client RNA & LEND LEASE RNA SHOWGROUND REDEVELOPMENT ALEXANDRIA STREET SEWER TRUNK	Status FOR CONSTRUCTION
LOCALITY PLAN AND NOTES			Revision 161163-050-CD-C-301-5550 04

Rev	Date	Description	Des.	Verif.	Appd.
04	03/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
03	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
02	22/06/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
01	25/05/2015	EDC CERTIFICATION ISSUE	ZA	DS	MH
00	18/11/2014	AFC	ZA	DS	MH

DALE STANTON Date
Approved *[Signature]*
MARK HICKEY 2/7/15
RPEQ No. 1649



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PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

21 SEP 2015

MEDQ

Br1-2
RL 17.00

LEGEND

EXTENT OF WORKS
PROPOSED TRUNK SEWERAGE
PROPOSED TRUNK SEWERAGE LINE LABEL
PROPOSED RETICULATION & TRUNK
SEWERAGE (NOT IN THIS CONTRACT)
EXISTING SEWER
FUTURE SEWER
PROPOSED RP BOUNDARY
EXISTING RP BOUNDARY

ASSET REGISTER - TRUNK SEWER

ESTATE/STAGE					
SITE ADDRESS					
MAINS	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST.	DESIGN	CONST.
VC	DN 600			28.130	
VC JP	DN 600			10.320	
HOBAS GRP JP	DN 820			1.000	
MH'S	MH TYPE & No.				
	SPECIAL	F	X		
	1	-	1		

ENGINEERING CERTIFICATION

SIGNED:	DATE: 02/07/2015
NAME OF SIGNATORY (PRINT):	MARK HICKEY
RPEQ NUMBER:	1649
COMPANY NAME:	Cardno Pty Ltd

AMENDMENT A

PAKEE BALA
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

ORIGINAL SIGNED BY PAKEE BALA DATE 07/11/2014

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

GOVERNMENT CLIENT PROJECT

CLIENT:	Lend Lease & RNA Cardno Pty Ltd
CONTACT:	Dale Stanton - 07 3310 2402
Q.U.U. AUDITOR:	AUDIT & COMPLIANCE OFFICER QUEENSLAND URBAN UTILITIES
CONTACT:	TONY FACEY 0412 436 579 (m)
B.C.C. DESIGN FILE NO:	

AS CONSTRUCTED DETAILS FOR AMEND.

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

SIGNED	DATE:
NAME OF SIGNATORY	
RPEQ No. or LICENCE	
COMPANY NAME	
START DATE	FINISH DATE



SHEET No. 3 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-003
AMEND. A

KEY PLAN
LAYOUT PLAN
Scale 1:1000

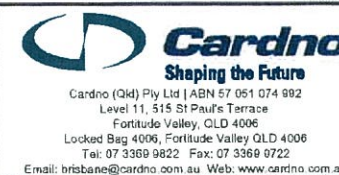
CONSTRUCTION INSPECTIONS:

NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY
QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE
OFFICER AT LEAST TWO (2) WEEKS PRIOR TO
COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY PH: 0412 436 579

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE
QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF
WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH: 3856 7033
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU



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Drawn	JM	Date	Jun-15	Client	RNA & LEND LEASE
Checked	DS	Date	Jun-15		RNA SHOWGROUND REDEVELOPMENT
Designed	ZA	Date	Jun-15		ALEXANDRIA STREET
Cardno Ref. No.	A10697-050				SEWER TRUNK
					DETAILS AND KEY PLAN -
					SEWER TRUNK

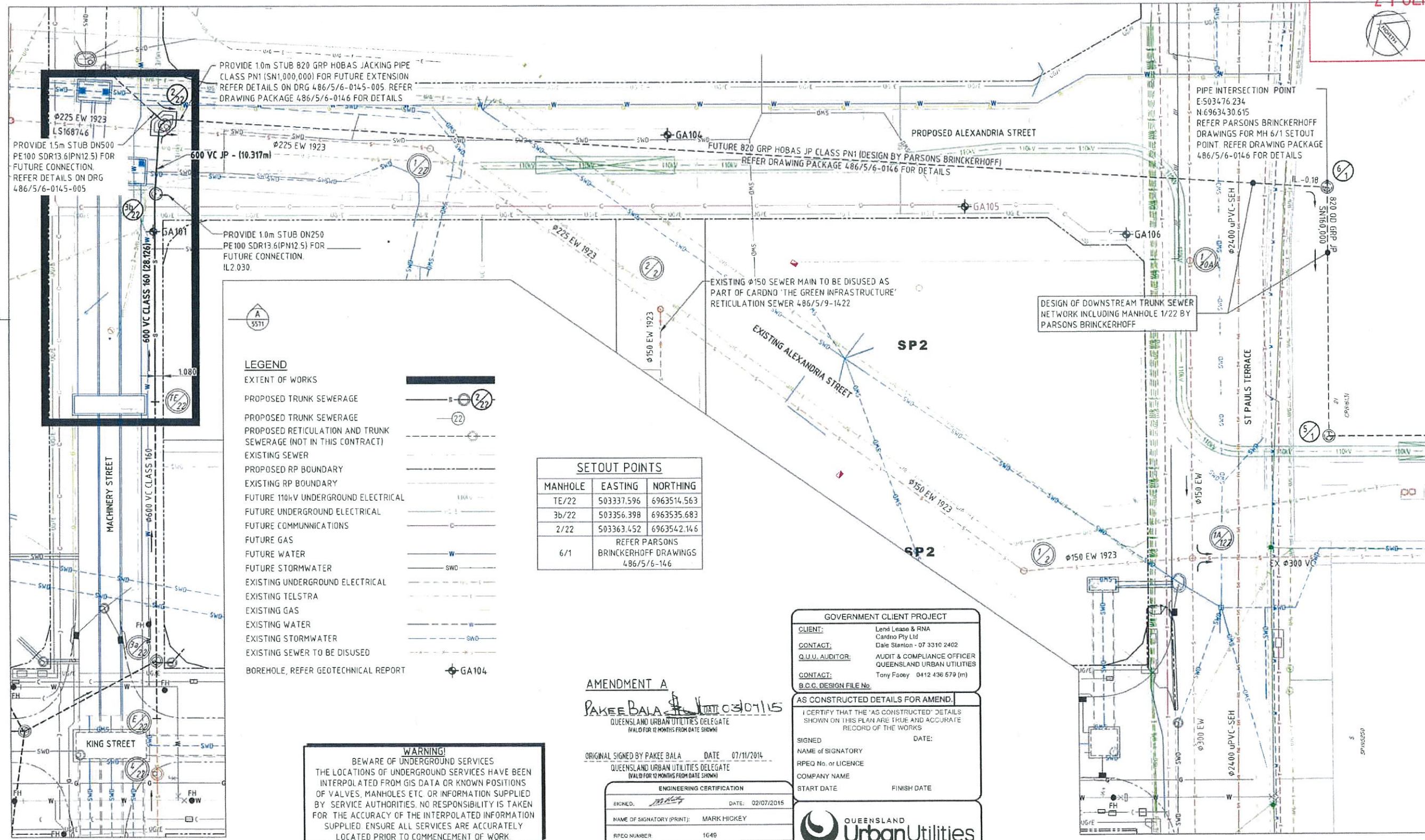
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NOT TO BE USED FOR CONSTRUCTION PURPOSES	
A.H.D. DATUM	Grnd
Scale	AS SHOWN
Size	A1
Drawing Number	161163-050-CD-C-301-5552
Revision	02

21 SEP 2015

MEDQ

DATE PLOTTED: 3 July 2015 12:18 PM BY: ZND ALAI

XREF: X-A10697-050_OLD-SHT-A1; X-A10697-050_SURVEY; X-A10697-050_DESIGN; X-A10697-050_SERVICES; X-A10697-050_SERVICES
CAD FILE: X-A10697-050-Phase 050-Sub-Cad-Drawings\161163-050-CD-C-301-5555.dwg



WARNING!
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES HAVE BEEN INTERPOLATED FROM GIS DATA OR KNOWN POSITIONS OF VALVES, MANHOLES ETC. OR INFORMATION SUPPLIED BY SERVICE AUTHORITIES. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE INTERPOLATED INFORMATION SUPPLIED. ENSURE ALL SERVICES ARE ACCURATELY LOCATED PRIOR TO COMMENCEMENT OF WORK.

AMENDMENT A
PAKEE BALA 03/07/15
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

ORIGINAL SIGNED BY PAKEE BALA DATE 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

ENGINEERING CERTIFICATION

ENGINEERED, *Mark Hickey* DATE: 02/07/2015

NAME OF SIGNATORY (PRINT): MARK HICKEY

RPEQ NUMBER: 1649

COMPANY NAME: Cardno Pty Ltd

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. PLEASE CONTACT TONY FACEY PH: 0412 436 579

GOVERNMENT CLIENT PROJECT

CLIENT: Lend Lease & RNA
Cardno Pty Ltd
Date Station - 07 3310 2402

CONTACT: AUDIT & COMPLIANCE OFFICER
QUEENSLAND URBAN UTILITIES
Tony Facey 0412 436 579 (m)

CONTACT: B.C.C. DESIGN FILE No.

AS CONSTRUCTED DETAILS FOR AMEND.

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

SIGNED: NAME OF SIGNATORY
RPEQ No. or LICENCE
COMPANY NAME

DATE: START DATE FINISH DATE

QUEENSLAND UrbanUtilities

SHEET No. 4 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-004
AMEND. A

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH: 3856 7033
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

0 5 10 15 20 25m
SCALE 1:250

Rev	Date	Description	Des.	Verif.	Appd.	RPEQ No.
05	03/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH	DALE STANTON
04	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH	
03	22/05/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH	
02	26/05/2015	SUBMISSION TO QUU	ZA	DS	MH	
01	25/05/2015	EDD CERTIFICATION ISSUE	ZA	DS	MH	
00	18/11/2014	AFC	ZA	DS	MH	MARK HICKEY

RNA
Lend Lease

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Cardno
Shaping the Future
Cardno (Qld) Pty Ltd | ABN 57 051 074 692
Level 11, 515 St Pauls Terrace
Fortitude Valley, QLD 4006
Locked Bag 4006, Fortitude Valley QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Email: hnsbane@cardno.com.au Web: www.cardno.com.au

Drawn: JM
Checked: DS
Designed: ZA
Cardno Ref. No. A10697-050

Date: Jun-15
Date: Jun-15
Date: Jun-15

Client: RNA & LEND LEASE
RNA SHOWGROUND REDEVELOPMENT
ALEXANDRIA STREET
SEWER TRUNK
LAYOUT PLAN

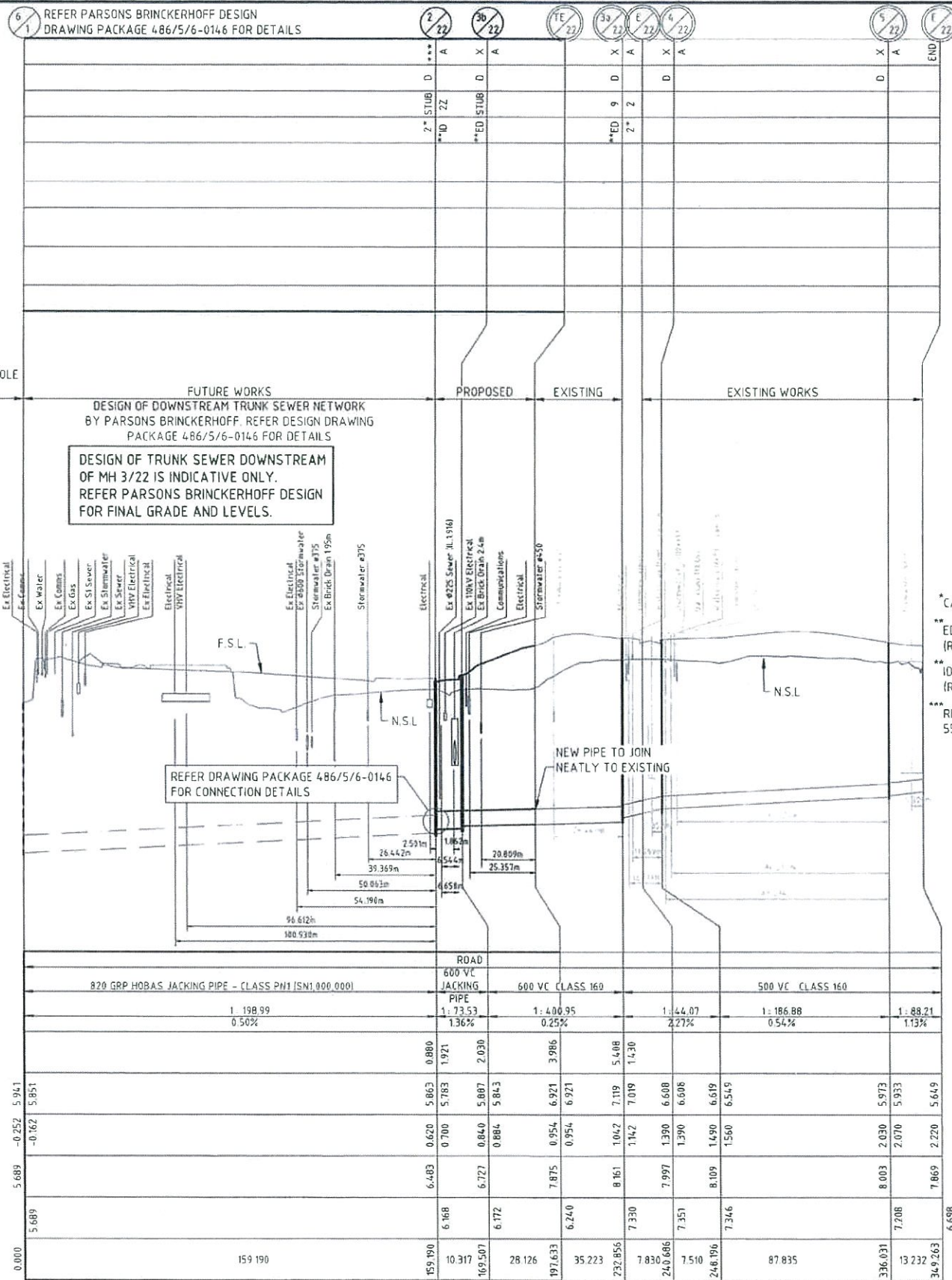
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A.H.D. DATUM
Grid: AS SHOWN
Scale: A1
Drawing Number: 161163-050-CD-C-301-5555
Revision: 05

DATE PLOTTED: 3 July 2015 12:18 PM BY: ZAND ALAU

MANHOLE/END NAME
M.H. TYPE AND DROP
COVER TYPE
JUNCTION LINE No.
JUNCTION DROP TYPES
PC DEPTH
PC. TYPE
PC. CHAINAGE
CONTROL I.L.
LOT No

DESIGN OF DOWNSTREAM TRUNK
SEWER NETWORK INCLUDING MANHOLE
1/22 BY PARSONS BRINCKERHOFF



QUU PROVIDER AND CONSTRUCTOR LIVE SEWER WORKS SCHEDULE

NO.	DESCRIPTION	DIA. SEWER	MH. NO.	MH. TYPE	COVER TYPE	F.S.L.	E.S.L.	I.L.	DEPTH TO INVERT
1	(INITIAL WORKS) QUU PROVIDER TO CONSTRUCT TEMPORARY BY PASS CONNECTION AROUND PROPOSED SEWER MH 2/22 LOCATION TO ALLOW MH CONSTRUCTION.	225							
2.1	CONSTRUCTOR TO REMOVE EXISTING 225 SEWER PIPE BETWEEN BY PASS CONNECTIONS.								
2.2	CONSTRUCTOR TO LAY LINE 22 BETWEEN TE/22 AND MH 2/22 AND CONSTRUCT MH 3b/22 INCLUDING COMPLETE BENCHING AND 1000mm LONG STUB (250 PE SDR 13.6) WITH TEMPORARY PLUG	600	3b/22	X	D	6.727	6.172	0.840	5.887
2.3	CONSTRUCTOR TO CONSTRUCT MH 2/22 WITH 12.0m LENGTH OF DN 250 PE 100 (PN 12.5/SDR 13.6) SUSPENDED ON EXISTING LINE LEVELS AND GRADE. (LENGTH OF PIPE TO BE CONFIRMED WITH CONSTRUCTOR) AT MH 2/22 LOCATION. CONSTRUCTOR IS RESPONSIBLE FOR SUPPORTING 250 PE MAIN DURING MANHOLE CONSTRUCTION.	820	2/22	SPECIAL	D	6.486	6.168	0.620	5.863
2.4	CONSTRUCTOR TO: a) INSTALL 150mm DIA. INTERNAL DROP WITH BLIND FLANGE TO BLOCK FLOWS IN THIS STAGE. b) INSTALL 1000mm LONG STUB AND PLUG DOWNSTREAM MH 2/22 (820 GPR JP). c) INSTALL 1500mm LONG STUB AND TEMPORARY PLUG AT UPSTREAM SIDE OF MANHOLE 2/22 (500 PE SDR 13.6). f) COMPLETE MH 2/22 BENCHING TO SUIT FUTURE CONFIGURATION INCLUDING CONCRETE PLUG AT MH OUTLET								
3	(INTERIM STAGE WORKS) AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION OF LINE 22 BETWEEN TE/22 AND 1000mm LONG STUB DOWN STREAM OF MH 2/22, QUU PROVIDER TO: a) CUT AND REMOVE TOP THIRD OF EXISTING 250 PE PIPE IN MH 2/22 BETWEEN EXISTING INTERNAL DROP AND MH WALL TO ALLOW OVERFLOWS INTO EXISTING SEWER NETWORK. b) CONNECT 250 PE PIPE TO EXISTING 225 EW AND REMOVE TEMPORARY BY PASS CONNECTION.								
4	(ULTIMATE STAGE WORKS - FUTURE WORKS TO BE CARRIED OUT AS DOCUMENTED AND MANAGED BY PARSONS BRINCKERHOFF) AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION OF LINE 22 (DOWNSTREAM OF MH 2/22 - DESIGNED BY PARSONS BRINCKERHOFF), QUU PROVIDER TO:- a) REMOVE TEMPORARY CONCRETE PLUG AT MH 2/22 OUTLET, STUB CAP AND INSTALL 316 SS SAFETY CHAIN. b) CUT INTO AND REMOVE SECTION 250 PE SEWER PIPE IN MH 2/22, 250 PE TO BE CUT FLUSH WITH PE LINING AT DOWNSTREAM END IN MH 2/22 AND SEAL OPENING. c) REMOVE BLIND FLANGE AND INSERT RING SPACER WITH BORE DIAMETER TO SUIT DROP PIPE DIAMETER.								
5	CONSTRUCTOR TO GROUT FILL / DEMOLISH AND REMOVE DISUSED SECTION OF EXISTING 250 PE AND 225 EW AS DIRECTED BY QUU AUDITOR.								

* CASE 2 IN SEQ-SEW-1301-10
** ED = EXTERNAL BACKDROP (REFER SEQ-SEW-1301-8)
*** ID = INSIDE DROP (REFER SEQ-SEW-1301-9)
*** REFER DRAWINGS 5570 and 5580 TO 5583 FOR DETAILS

NOTES:

- MANHOLES 3b/22 AND 2/22 TO BE PE LINED AND SUPPLIED WITH SS LADDER (REFER "MAINTENANCE HOLES" NOTES 5 & 7 IN DWG -5555)
- VITRIFIED CLAY (VC) PIPES AND FITTINGS TO WSA PS-231
- "X" TYPE MH REFER SEQ-SEW-1301-6
SEQ-SEW-1301-8
SEQ-SEW-1301-10
SEQ-SEW-1301-11 (NOTE THAT RPEQ DESIGN INPUT REQUIRED FOR 150TH TOP SLAB FOR MH IN ROADWAY LOCATION)
SEQ-SEW-1301-12
- MH COVERS REFER SEQ-SEW-1308-2 TO SEQ-SEW-1308-11 AS APPROPRIATE.
- SHORT ROCKER PIPES REQUIRED AT ALL MH'S. REFER SEQ-SEW-1301-8
- PIPE SIZE AND CLASS FOR GRP (HOBAS) STUB SHOWN ON LONG SECTION AT DOWNSTREAM END OF MH 2/22 HAVE BEEN PROVIDED BY PARSONS BRINCKERHOFF.
- PIPE CLASS SHOWN ON LONG SECTION FOR VC PIPES IS BASED ON OPEN TRENCH INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NOMINATED PIPES CAN HANDLE ALL INSTALLATION/INSITU LOADINGS. CONTRACTOR MUST OBTAIN WRITTEN VERIFICATION FROM PIPE MANUFACTURER/SUPPLIER AND SUBMIT TO CLIENT'S RPEQ ENGINEER FOR VERIFICATION PRIOR TO PLACEMENT OR CONSTRUCTION.
- ALL GRP PIPES AND JOINT MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE GRP JACKING PIPE STANDARD ISO25780.
- CONTRACTOR TO SUPPLY MANUFACTURER'S CERTIFICATION THAT PIPE DEFLECTIONS SHALL NOT EXCEED THE LIMITS SHOWN IN SEQ CODE
- ENSURE INTERNAL SURFACE AT ALL PIPES ARE WHITE OR LIGHT COLOUR TO FACILITATE CCTV INSPECTIONS.

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH. 3856 7033 EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY PH: 0412 436 579

ENGINEERING CERTIFICATION	
SIGNED: <i>[Signature]</i>	DATE: 02/07/2015
NAME OF SIGNATORY (PRINT): MARK HICKEY	
RPEQ NUMBER: 1049	
COMPANY NAME: Cardno Pty Ltd	

AMENDMENT A
PAKIE BALA *[Signature]* DATE: 31/07/15
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SIGNED)

ORIGINAL SIGNED BY PAKIE BALA DATE: 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SIGNED)

GOVERNMENT CLIENT PROJECT	
CLIENT:	Lend Lease & RNA Cardno Pty Ltd
CONTACT:	Dale Stanton - 07 3310 2402
Q.U.U. AUDITOR:	AUDIT & COMPLIANCE OFFICER QUEENSLAND URBAN UTILITIES
CONTACT:	Tony Facey 0412 436 579 (in)
B.C.C. DESIGN FILE NO:	

AS CONSTRUCTED DETAILS FOR AMEND.	
I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS	
SIGNED:	DATE:
NAME OF SIGNATORY	
RPEQ No. or LICENCE	
COMPANY NAME	
START DATE	FINISH DATE



SHEET No. 5 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/6-0145-005 A

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL
21 SEP 2015
MEDQ

DATUM RL -4.0

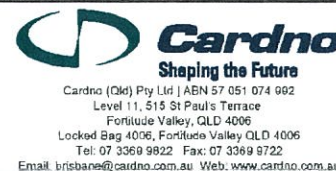
PROP. DESCRIPTION
DIAMETER & TYPE
GRADE (1 in X)
GRADE (%)
JUNCTION INVERT LEVEL
DEPTH BELOW F.S.L. SURFACE LEVEL
INVERT LEVEL OF SEWER
FINISHED SURFACE LEVEL
EXISTING SURFACE LEVEL
PEGGED CHAINAGE

LINE	
06	03/07/2015
05	01/07/2015
04	22/06/2015
03	26/05/2015
02	25/05/2015
01	24/02/2015
00	18/11/2014
Rev.	Date
Description	

Verified	
DALE STANTON	Date
Approved	
MARK HICKEY	3/7/15
RPEQ No. 1049	



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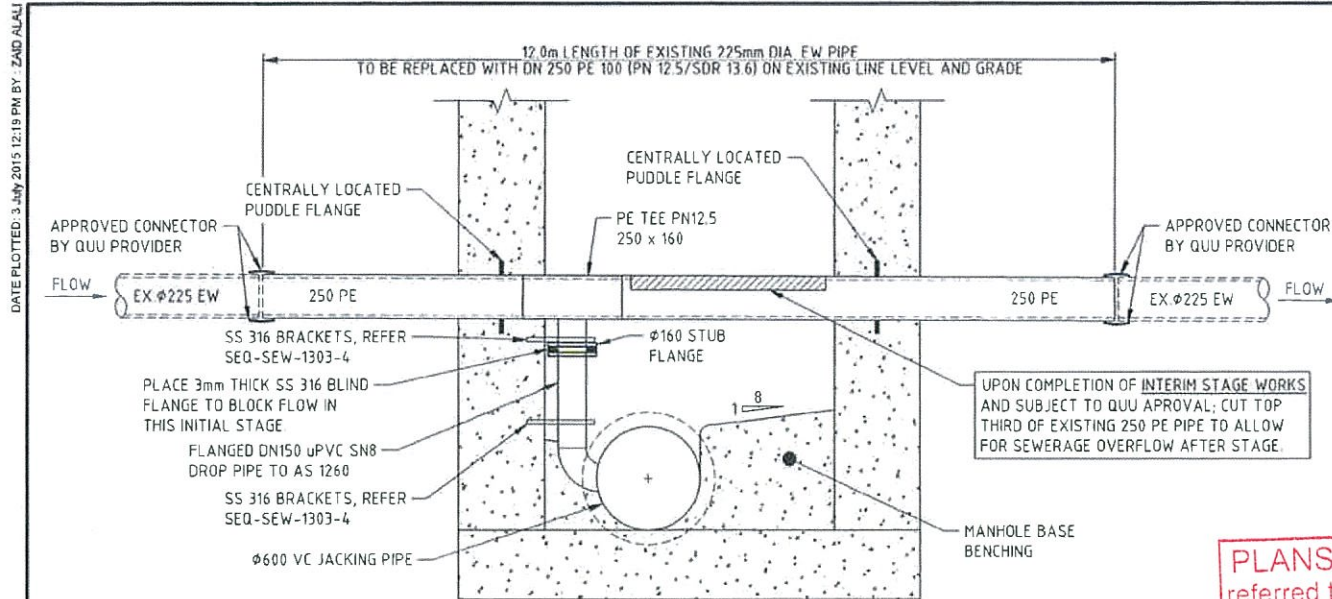
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JM	Jun-15	RNA & LEND LEASE
Checked	Date	RNA SHOWGROUND REDEVELOPMENT
DS	Jun-15	ALEXANDRIA STREET
Designed	Date	SEWER TRUNK
ZA	Jun-15	
Cardno Ref. No.		
A10697-050		
LONGITUDINAL SECTION		
LINE No. 22		

FOR APPROVAL	
NOT TO BE USED FOR CONSTRUCTION PURPOSES	
A.H.D.	Grd
DATUM	AS SHOWN
Scale	A1
Revision	
161163-050-CD-C-301-5560	06

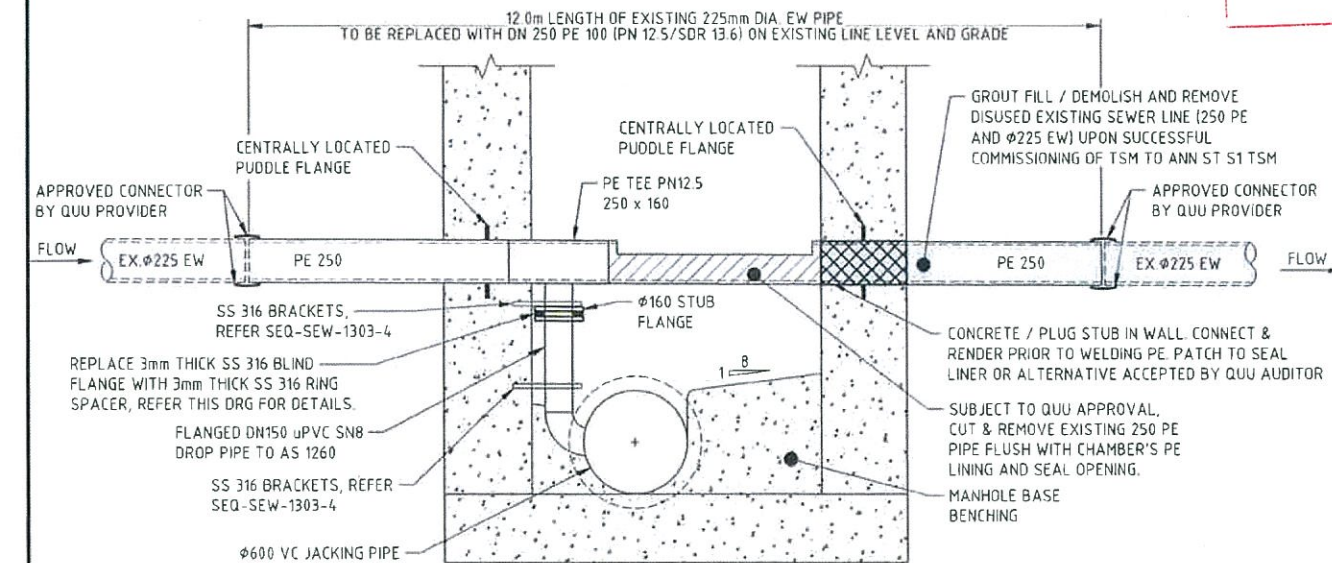
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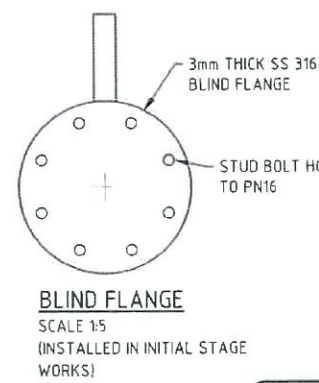
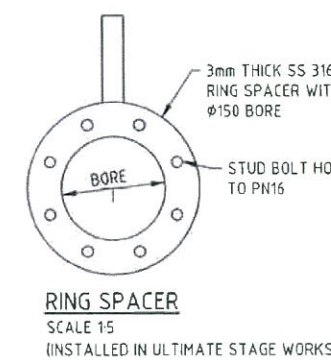
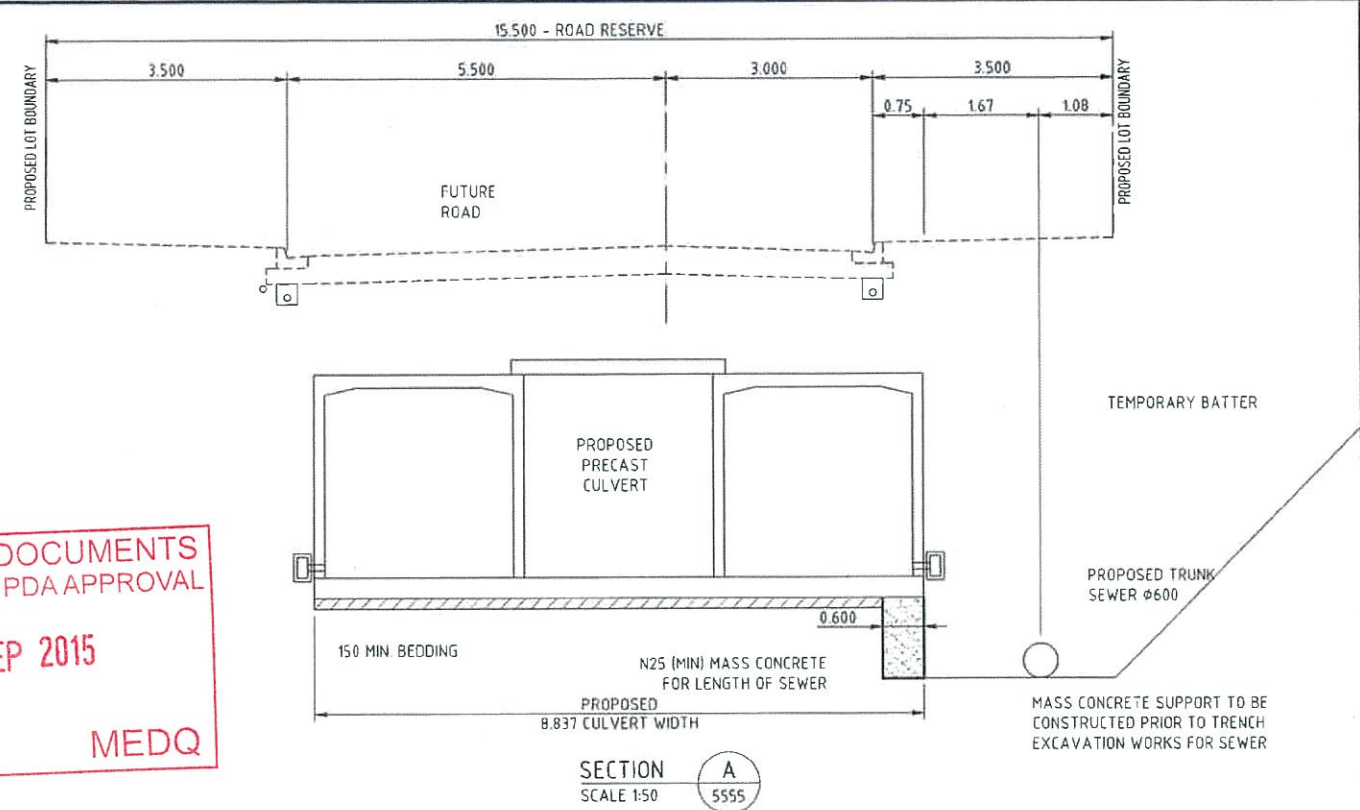
EXISTING $\phi 225$ EW AT PROPOSED MANHOLE MH2/22 - INITIAL WORKS STAGE DETAIL
SCALE 1:20



EXISTING $\phi 225$ EW AT PROPOSED MANHOLE MH2/22 - ULTIMATE STAGE WORKS DETAIL (WORKS TO BE COMPLETED WITH DOWNSTREAM PARSONS BRINCKERHOFF STAGE OF WORKS)

FUTURE STAGE WORKS TO OCCUR UPON SUCCESSFUL 'ON MAINTENANCE' INSPECTION AND COMMISSIONING OF TRUNK SEWER MAIN TO ANN ST S1 CONNECTION. (DOWNSTREAM OF MH 2/22 - DESIGNED BY PARSONS BRINCKERHOFF - REFER 486/5/6-0146)
SCALE 1:20

PLANS AND DOCUMENTS referred to in the PDA APPROVAL
21 SEP 2015
MEDQ



AMENDMENT A
PAKEE BALA
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)
DATE 03/10/15
ORIGINAL SIGNED BY PAKEE BALA DATE 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

ENGINEERING CERTIFICATION	
SIGNED	DATE 02/07/2015
NAME OF SIGNATORY (PRINT)	MARK HICKEY
RPEQ NUMBER	1649
COMPANY NAME	Cardno Pty Ltd

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH. 3656 7033 EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY PH: 0412 436 570

GOVERNMENT CLIENT PROJECT	
CLIENT:	Lend Lease & RNA
CONTACT:	Cardno Pty Ltd
Q.U.U. AUDITOR:	AUDIT & COMPLIANCE OFFICER
CONTACT:	Queensland Urban Utilities
B.C.C. DESIGN FILE NO:	Tony Facey 0412 436 579 (m)
AS CONSTRUCTED DETAILS FOR AMEND.	
I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS	
SIGNED	DATE
NAME OF SIGNATORY	
RPEQ No or LICENCE	
COMPANY NAME	
START DATE	FINISH DATE



SHEET No. 6 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-006
AMEND. A



Rev	Date	Description	Des.	Verif.	Appd.
05	03/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
04	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
03	22/06/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
02	26/05/2015	SUBMISSION TO QUU	ZA	DS	MH
01	25/05/2015	EDO CERTIFICATION ISSUE	ZA	DS	MH
00	18/11/2014	AFC	ZA	DS	MH

Verified	DALE STANTON	Date
Approved	MARK HICKEY	3/7/15

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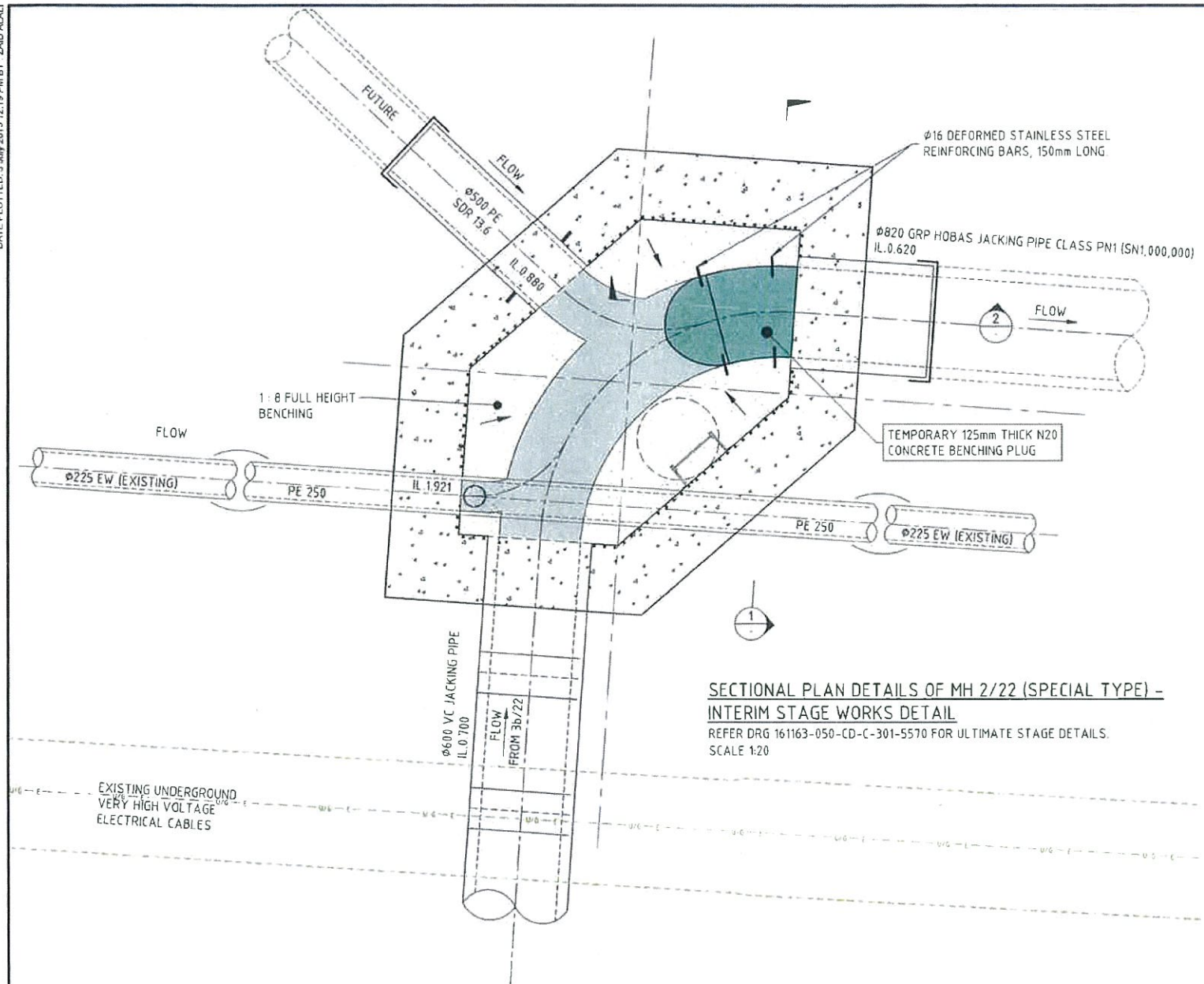
Cardno
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Fortitude Valley, QLD 4006
Locked Bag 4006, Fortitude Valley QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Email: brian@cardno.com.au Web: www.cardno.com.au

Drawn	JM	Date	Jun-15	Client	RNA & LEND LEASE
Checked	DS	Date	Jun-15		RNA SHOWGROUND REDEVELOPMENT
Designed	ZA	Date	Jun-15		ALEXANDRIA STREET
Cardno Ref. No.	A10697-050				SEWER TRUNK
				DETAILS SHEET 2	

Status	FOR APPROVAL		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
A.H.D.	Grid	Scale	Size
DATUM		AS SHOWN	A1
Drawing Number	161163-050-CD-C-301-5570		
Revision	05		

DATE PLOTTED: 3 July 2015 12:19 PM BY: ZAND ALAU

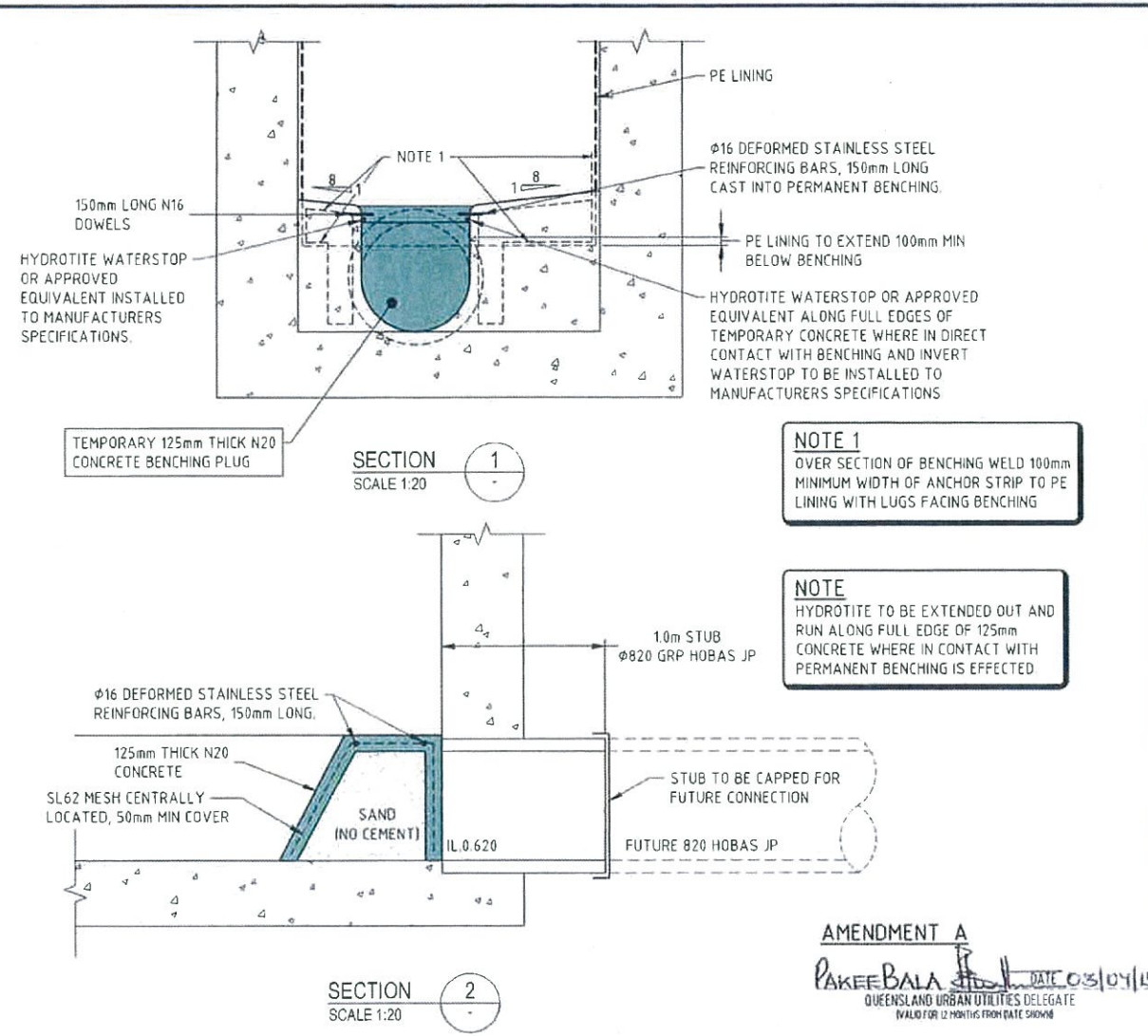
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PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

21 SEP 2015

MEDQ



NOTE
PERMANENT BENCHING IS TO BE INSPECTED AND ACCEPTED BY CERTIFIED CARDNO RPEQ ENGINEER AND QUU AUDITOR PRIOR TO INSTALLATION OF TEMPORARY CONCRETE BENCHING PLUG. REMOVAL OF TEMPORARY INSTALLATION MUST SIMILARLY BE WITNESSED BY PARSONS BRINKERHOFF RPEQ AND QUU AUDITOR ONCE THE ULTIMATE DOWNSTREAM WORKS REACH APPROPRIATE COMPLETION STAGE

ENGINEERING CERTIFICATION	
SIGNED:	DATE: 02/07/2015
NAME OF SIGNATORY (PRINT):	MARK HICKEY
RPEQ NUMBER:	1649
COMPANY NAME:	Cardno Pty Ltd

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH: 3856 7033 EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. PLEASE CONTACT TONY FACEY PH: 0412 436 579

AMENDMENT A
PAKEE BALA
QUEENSLAND URBAN UTILITIES DELEGATE
VALID FOR 12 MONTHS FROM DATE SHOWN

ORIGINAL SIGNED BY PAKEE BALA DATE: 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
VALID FOR 12 MONTHS FROM DATE SHOWN

GOVERNMENT CLIENT PROJECT	
CLIENT:	Land Lease & RNA Cardno Pty Ltd
CONTACT:	Dale Stanton - 07 3310 2402
Q.U.U. AUDITOR:	AUDIT & COMPLIANCE OFFICER, QUEENSLAND URBAN UTILITIES
CONTACT:	Tony Facey 0412 436 579 (m)
B.C.C. DESIGN FILE NO.:	

AS CONSTRUCTED DETAILS FOR AMEND.
I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS.
SIGNED: DATE: NAME OF SIGNATORY: RPEQ No. or LICENCE: COMPANY NAME: START DATE: FINISH DATE:



SHEET No. 7 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-007
AMEND. A

Rev	Date	Description	Des	Verif	Appd
04	03/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
03	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
02	22/06/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
01	25/05/2015	EDC CERTIFICATION ISSUE	ZA	DS	MH
00	18/12/2014	AFC	ZA	DS	MH

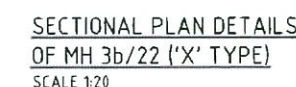


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Locked Bag 4006, Fortitude Valley QLD 4006
Tel: 07 3359 9822 Fax: 07 3359 9722
Email: brisbane@cardno.com.au Web: www.cardno.com.au

Drawn	JM	Date	Jun-15	Client	RNA & LEND LEASE
Checked	DS	Date	Jun-15		RNA SHOWGROUND REDEVELOPMENT
Designed	ZA	Date	Jun-15		ALEXANDRIA STREET
Cardno Ref. No.	A10697-050				SEWER TRUNK
					DETAILS SHEET 3

FOR CONSTRUCTION			
A.H.D.	Grid	Scale	Size
DATUM		AS SHOWN	A1
Drawing Number	161163-050-CD-C-301-5571	Revision	04



ORIGINAL SIGNED BY PAKEE BALA DATE 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
VALID FOR 12 MONTHS FROM DATE SHOWN

CLIENT: Lend Lease & RNA
Cardno Pty Ltd
CONTACT: Dale Stanton - 07 3310 2402
Q.U.U. AUDITOR: AUDIT & COMPLIANCE OFFICE
QUEENSLAND URBAN UTILITIES
CONTACT: Tony Facey 0412 436 579 (m)

SIGNED: <i>M. Hickey</i>	DATE	02/07/2011
NAME OF SIGNATORY (PRINT)	MARK HICKEY	
RPEQ NUMBER:	1649	
COMPANY NAME	Carino Pty Ltd	

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

SIGNED _____ DATE: _____
NAME of SIGNATORY _____
RPEQ No. or LICENCE _____
COMPANY NAME _____
START DATE _____ FINISH DATE _____

SHEET No. 8 OF 12	
QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND
486/5/6-0145-008	A

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED
QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE
OFFICER AT LEAST TWO (2) WEEKS PRIOR TO
COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY, PH: 0412 436 570



Drawn	JM
Checked	DS
Designed	ZA
Cardno Ref. No.	
A10697-050	

Client	RNA & LEND LEASE
RNA SHOWGROUND REDEVELOPMENT	
ALEXANDRIA STREET	
SEWER TRUNK	
DETAILS SHEET 1	

A.H.D. DATUM	Grid	Scale AS SHOWN	Size
Drawing Number 161163-050-CD-C-301-5572			



KREF's: X-a10697-050_OLD-SHT-A1

 RNA Real Estate  Lend Lease	© Cardno Limited All Rights Reserved. This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.
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Locked Bag 4006, Fortitude Valley QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Email: brtsbano@cardno.com.au Web: www.cardno.com.au

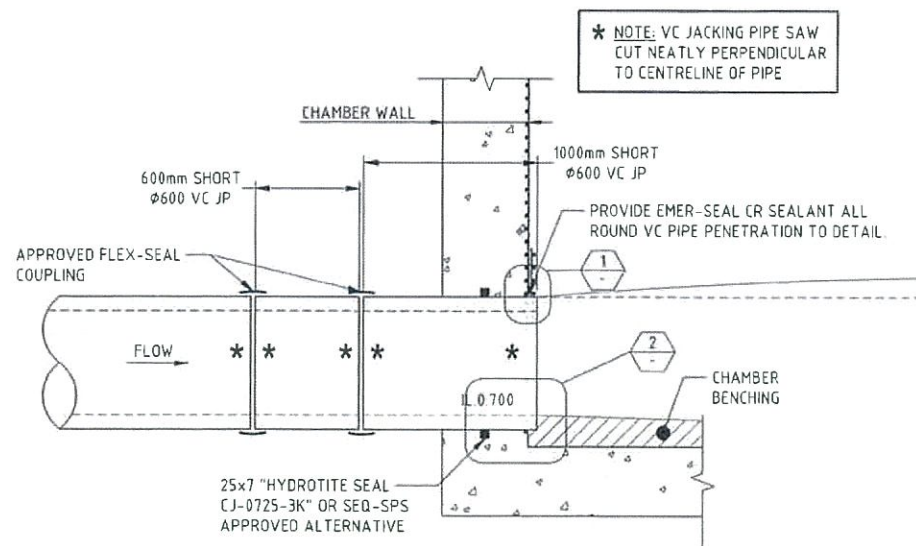
Drawn	JM	Date	Jun 1997
Checked	DS	Date	Jun 1997
Designed	ZA	Date	Jun 1997
Cardno Ref. No.			
A10697-050			

Client	RNA & LEND LEASE
RNA SHOWGROUND REDEVELOPMENT	
ALEXANDRIA STREET	
SEWER TRUNK	
DETAILS SHEET 1	

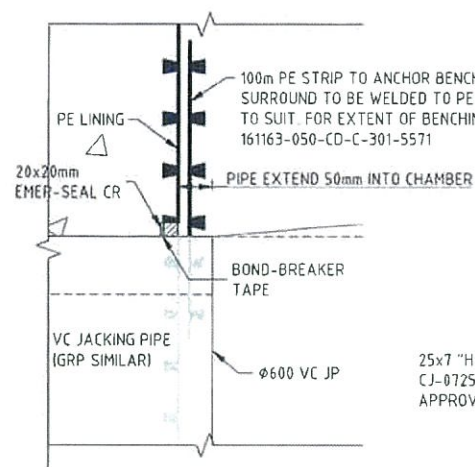
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A.H.D.	Grnd	Scale	Size	A1	
DATUM		AS SHOWN			
Drawing Number				Revision	
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DATE PLOTTED: 3 July 2015 12:19 PM BY: ZAD ALALI

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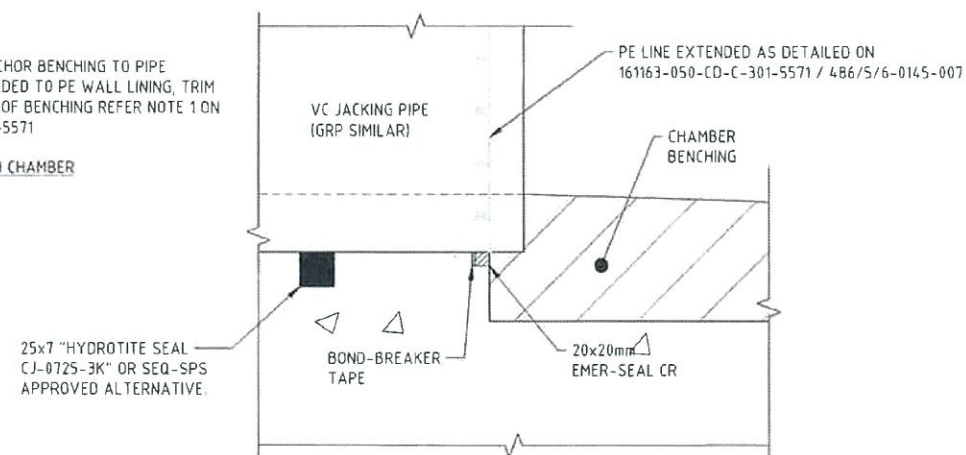


TYPICAL VC JACKING PIPE PENETRATION INTO MH 3b/22 AND MH 2/22
SCALE 1:20



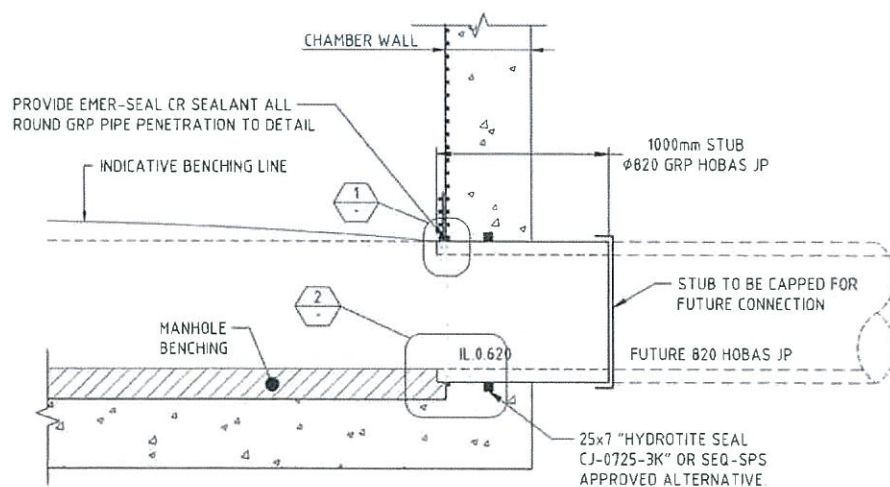
PIPE PENETRATION SEALING DETAIL

DETAIL 1
SCALE 1:5



PIPE PENETRATION SEALING DETAIL

DETAIL 2
SCALE 1:5



TYPICAL GRP JACKING PIPE PENETRATION INTO MH 2/22
SCALE 1:20

ENGINEERING CERTIFICATION	
SIGNED: <i>Mark Hickey</i>	DATE: 02/07/2015
NAME OF SIGNATORY (PRINT): MARK HICKEY	
RPEQ NUMBER: 1649	
COMPANY NAME: Cardno Pty Ltd	

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CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY PH: 0412 436 579

AMENDMENT A
PAKEE BALA
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

ORIGINAL SIGNED BY PAKEE BALA DATE 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

GOVERNMENT CLIENT PROJECT
CLIENT: Lord Lease & RNA
Cardno Pty Ltd
CONTACT: Dale Stanton - 07 3310 2402
QUU AUDITOR: AUDIT & COMPLIANCE OFFICER
QUEENSLAND URBAN UTILITIES
CONTACT: Tony Facey 0412 436 579 (m)
B.C.C. DESIGN FILE No:

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

SIGNED: *PAKEE BALA* DATE: *02/07/2015*
NAME OF SIGNATORY: PAKEE BALA
RPEQ No. or LICENCE: *1649*
COMPANY NAME: Cardno Pty Ltd
START DATE: FINISH DATE:

QUEENSLAND UrbanUtilities

SHEET No. 9 OF 12
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-009
AMEND. A

0 0.4 0.8 1.2 1.6 2.0m
SCALE 1:20

0 0.4 0.8 1.2 1.6 2.0m
SCALE 1:20

Rev	Date	Description	Des	Verif	Appd
02	02/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
01	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
00	22/06/2015	DETAILS SHEET ADDED	ZA	DS	MH

RNA
Lend Lease

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Locked Bag 4006, Fortitude Valley QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Email: brian@cardno.com.au Web: www.cardno.com.au

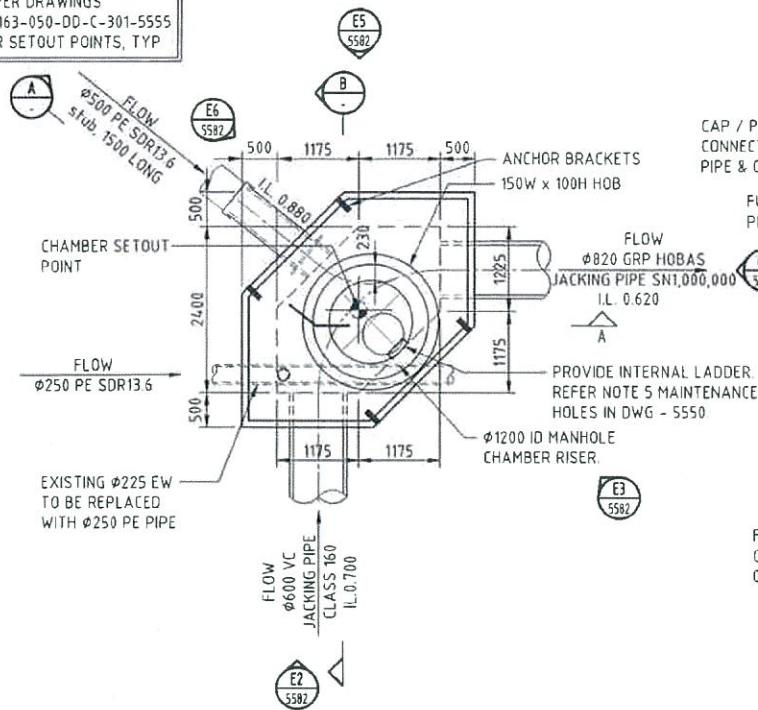
Drawn: JM Date: Jun-15
Checked: DS Date: Jun-15
Designed: ZA Date: Jun-15
Cardno Ref. No.: A10697-050
Client: RNA & LEND LEASE
RNA SHOWGROUND REDEVELOPMENT
ALEXANDRIA STREET
SEWER TRUNK

STATUS: FOR CONSTRUCTION
A.H.D. DATUM: Grid: Scale: AS SHOWN Size: A1
Drawing Number: 161163-050-CD-C-301-5573
Revision: 02

DATE PLOTTED: 3 Jun 2015 12:19 PM BY: ZAID ALALI

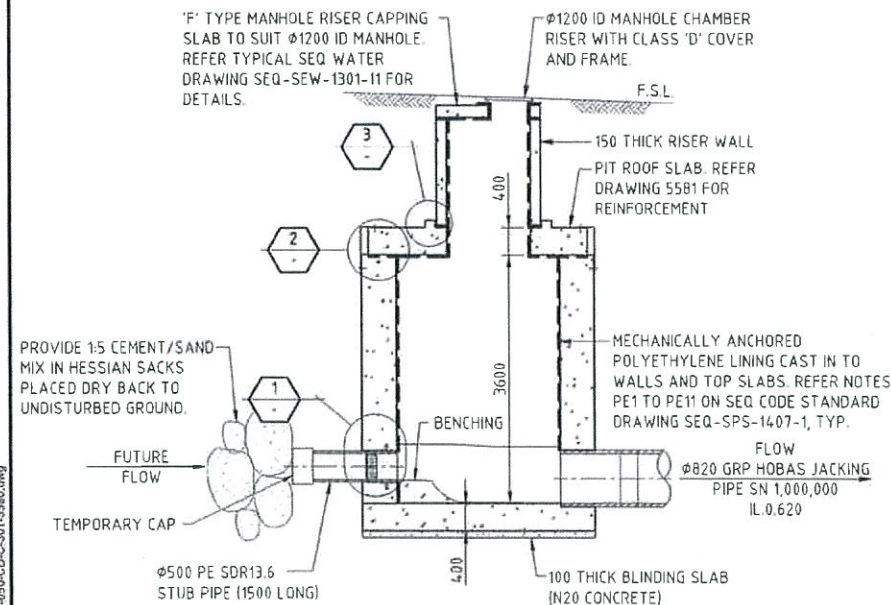
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REFER DRAWINGS
161163-050-CD-C-301-5555
FOR SETOUT POINTS, TYP



SEWER PIT 2/22 ARRANGEMENT
SCALE 1:50

'F' TYPE MANHOLE RISER CAPPING
SLAB TO SUIT 1200 ID MANHOLE.
REFER TYPICAL SEQ WATER
DRAWING SEQ-SEW-1301-11 FOR
DETAILS.



SECTION A
1:50

NOTE: REFER DRAWING 5570
FOR BENCHING DETAILS.

CAP / PLUG TO BE REMOVED PRIOR TO
CONNECTION OF FUTURE 500 PE SEWER
PIPE & CONNECTION WITH EF COUPLING

FLOW
0.820 GRP HOBAS
JACKING PIPE SN1,000,000
IL 0.620

PROVIDE INTERNAL LADDER
REFER NOTE 5 MAINTENANCE
HOLES IN DWG - 5550

1200 ID MANHOLE
CHAMBER RISER

EXISTING 225 EW
TO BE REPLACED
WITH 250 PE PIPE

600 VC
JACKING PIPE
CLASS 160
IL 0.700

CHAMBER SETOUT
POINT

ANCHOR BRACKETS
150W x 100H HOB

MECHANICALLY ANCHORED POLYETHYLENE
LINING CAST IN TO WALLS AND TOP SLABS
REFER NOTES PE1 TO PE11 ON SEQ CODE
STANDARD DRAWING SEQ-SPS-1407-1, TYP

REVERSE 100mm PE TO ANCHOR
BENCHING AS NOTED, TRIM TO SUIT

WELD PE STUB TO PE LINING

HYDROPHYC SEAL
ALL ROUND, TYP

REVERSE 100mm PE TO ANCHOR
BENCHING AS NOTED, TRIM TO SUIT

M16 x 75 MASONRY ANCHORS, GRADE
316 SS, TO 18 DIA. HOLE IN BRACKET

12 SS PLATE, GRADE 316,
ANCHOR BRACKET, 4 OFF

PIT ROOF SLAB. REFER DRAWING
5581 FOR REINFORCEMENT

60 x 6.0 RECESS IN
ROOF SLAB

REFER SEQ-SPS-1407-1
FOR STANDARD DETAILS
OF WALL AND TOP SLAB
JUNCTION (TYPICAL)

MECHANICALLY ANCHORED
POLYETHYLENE LINING CAST IN TO
WALLS AND TOP SLABS. REFER
NOTES PE1 TO PE11 ON SEQ CODE
STANDARD DRAWING
SEQ-SPS-1407-1, TYP.

25 x 50 SEALFAST
STRIP OR APPROVED
SIMILAR

M16 x 75 MASONRY ANCHORS,
GRADE 316 SS, TO 18 DIA.
HOLE IN BRACKET

PE WEEP FLANGE

APPROVED TEMPORARY
PLUG SEALED WITHIN
500 PE PIPE

FUTURE E/F COUPLING

FUTURE PE PIPE

CAP / PLUG TO BE REMOVED PRIOR TO
CONNECTION OF FUTURE 500 PE SEWER
PIPE & CONNECTION WITH EF COUPLING

FLOW
0.820 GRP HOBAS
JACKING PIPE SN1,000,000
IL 0.620

PROVIDE INTERNAL LADDER
REFER NOTE 5 MAINTENANCE
HOLES IN DWG - 5550

1200 ID MANHOLE
CHAMBER RISER

EXISTING 225 EW
TO BE REPLACED
WITH 250 PE PIPE

600 VC
JACKING PIPE
CLASS 160
IL 0.700

CHAMBER SETOUT
POINT

ANCHOR BRACKETS
150W x 100H HOB

MECHANICALLY ANCHORED POLYETHYLENE
LINING CAST IN TO WALLS AND TOP SLABS
REFER NOTES PE1 TO PE11 ON SEQ CODE
STANDARD DRAWING SEQ-SPS-1407-1, TYP

REVERSE 100mm PE TO ANCHOR
BENCHING AS NOTED, TRIM TO SUIT

WELD PE STUB TO PE LINING

HYDROPHYC SEAL
ALL ROUND, TYP

REVERSE 100mm PE TO ANCHOR
BENCHING AS NOTED, TRIM TO SUIT

M16 x 75 MASONRY ANCHORS, GRADE
316 SS, TO 18 DIA. HOLE IN BRACKET

12 SS PLATE, GRADE 316,
ANCHOR BRACKET, 4 OFF

PIT ROOF SLAB. REFER DRAWING
5581 FOR REINFORCEMENT

60 x 6.0 RECESS IN
ROOF SLAB

REFER SEQ-SPS-1407-1
FOR STANDARD DETAILS
OF WALL AND TOP SLAB
JUNCTION (TYPICAL)

MECHANICALLY ANCHORED
POLYETHYLENE LINING CAST IN TO
WALLS AND TOP SLABS. REFER
NOTES PE1 TO PE11 ON SEQ CODE
STANDARD DRAWING
SEQ-SPS-1407-1, TYP.

25 x 50 SEALFAST
STRIP OR APPROVED
SIMILAR

M16 x 75 MASONRY ANCHORS,
GRADE 316 SS, TO 18 DIA.
HOLE IN BRACKET

PE WEEP FLANGE

APPROVED TEMPORARY
PLUG SEALED WITHIN
500 PE PIPE

FUTURE E/F COUPLING

FUTURE PE PIPE

CAP / PLUG TO BE REMOVED PRIOR TO
CONNECTION OF FUTURE 500 PE SEWER
PIPE & CONNECTION WITH EF COUPLING

FLOW
0.820 GRP HOBAS
JACKING PIPE SN1,000,000
IL 0.620

PROVIDE INTERNAL LADDER
REFER NOTE 5 MAINTENANCE
HOLES IN DWG - 5550

1200 ID MANHOLE
CHAMBER RISER

EXISTING 225 EW
TO BE REPLACED
WITH 250 PE PIPE

600 VC
JACKING PIPE
CLASS 160
IL 0.700

CHAMBER SETOUT
POINT

ANCHOR BRACKETS
150W x 100H HOB

MECHANICALLY ANCHORED POLYETHYLENE
LINING CAST IN TO WALLS AND TOP SLABS
REFER NOTES PE1 TO PE11 ON SEQ CODE
STANDARD DRAWING SEQ-SPS-1407-1, TYP

REVERSE 100mm PE TO ANCHOR
BENCHING AS NOTED, TRIM TO SUIT

WELD PE STUB TO PE LINING

HYDROPHYC SEAL
ALL ROUND, TYP

REVERSE 100mm PE TO ANCHOR
BENCHING AS NOTED, TRIM TO SUIT

M16 x 75 MASONRY ANCHORS, GRADE
316 SS, TO 18 DIA. HOLE IN BRACKET

12 SS PLATE, GRADE 316,
ANCHOR BRACKET, 4 OFF

PIT ROOF SLAB. REFER DRAWING
5581 FOR REINFORCEMENT

60 x 6.0 RECESS IN
ROOF SLAB

REFER SEQ-SPS-1407-1
FOR STANDARD DETAILS
OF WALL AND TOP SLAB
JUNCTION (TYPICAL)

MECHANICALLY ANCHORED
POLYETHYLENE LINING CAST IN TO
WALLS AND TOP SLABS. REFER
NOTES PE1 TO PE11 ON SEQ CODE
STANDARD DRAWING
SEQ-SPS-1407-1, TYP.

25 x 50 SEALFAST
STRIP OR APPROVED
SIMILAR

M16 x 75 MASONRY ANCHORS,
GRADE 316 SS, TO 18 DIA.
HOLE IN BRACKET

PE WEEP FLANGE

APPROVED TEMPORARY
PLUG SEALED WITHIN
500 PE PIPE

FUTURE E/F COUPLING

FUTURE PE PIPE

CAP / PLUG TO BE REMOVED PRIOR TO
CONNECTION OF FUTURE 500 PE SEWER
PIPE & CONNECTION WITH EF COUPLING

FLOW
0.820 GRP HOBAS
JACKING PIPE SN1,000,000
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PROVIDE INTERNAL LADDER
REFER NOTE 5 MAINTENANCE
HOLES IN DWG - 5550

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CHAMBER SETOUT
POINT

ANCHOR BRACKETS
150W x 100H HOB

MECHANICALLY ANCHORED POLYETHYLENE
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APPROVED TEMPORARY
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CHAMBER SETOUT
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150W x 100H HOB

MECHANICALLY ANCHORED POLYETHYLENE
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WELD PE STUB TO PE LINING

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ALL ROUND, TYP

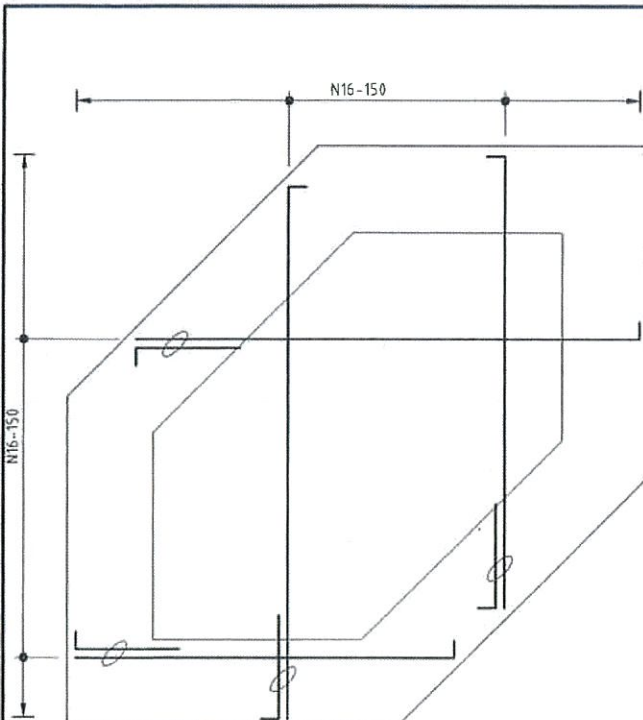
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BENCHING AS NOTED, TRIM TO SUIT

M16 x 75 MASONRY ANCHORS, GRADE
316 SS, TO 18 DIA. HOLE IN BRACKET

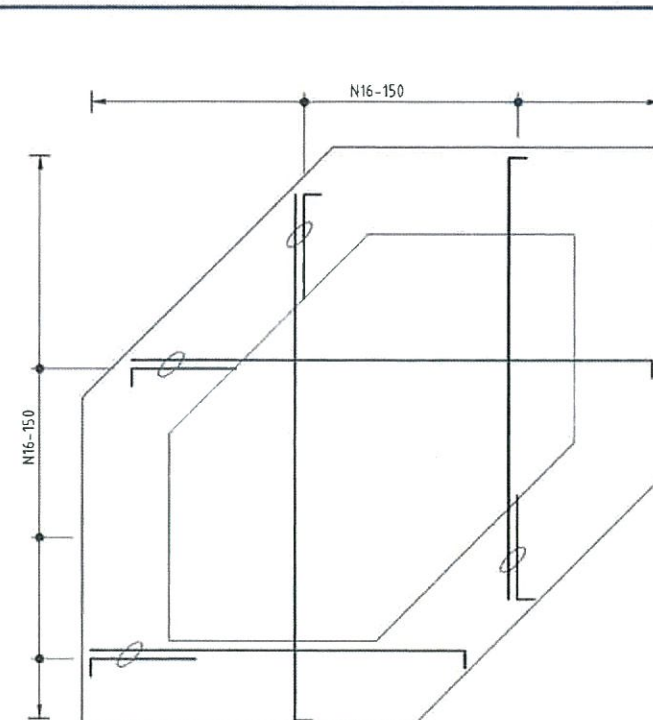
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ANCHOR BRACKET, 4 OFF

PIT ROOF SLAB. REFER DRAWING
5581 FOR REINFORCEMENT

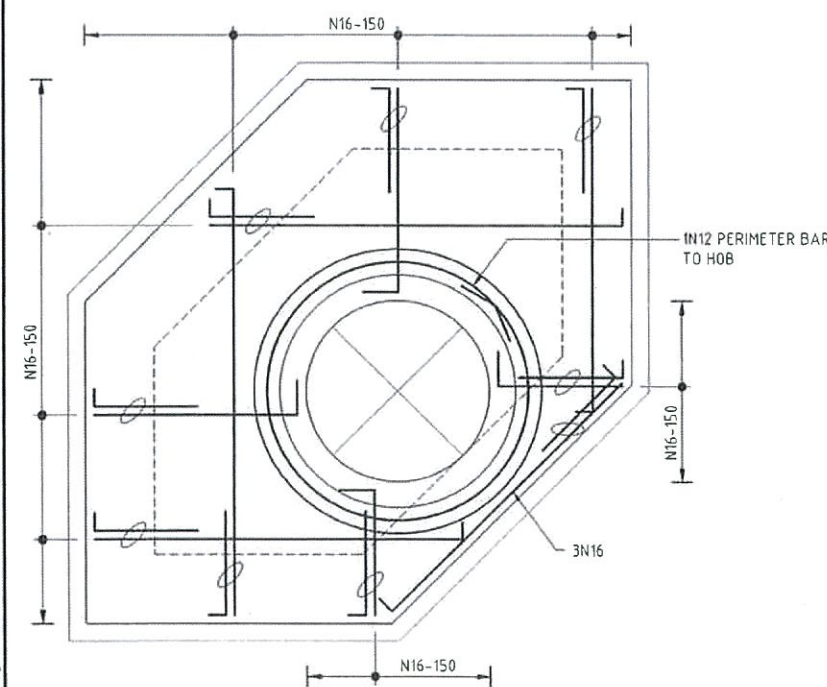
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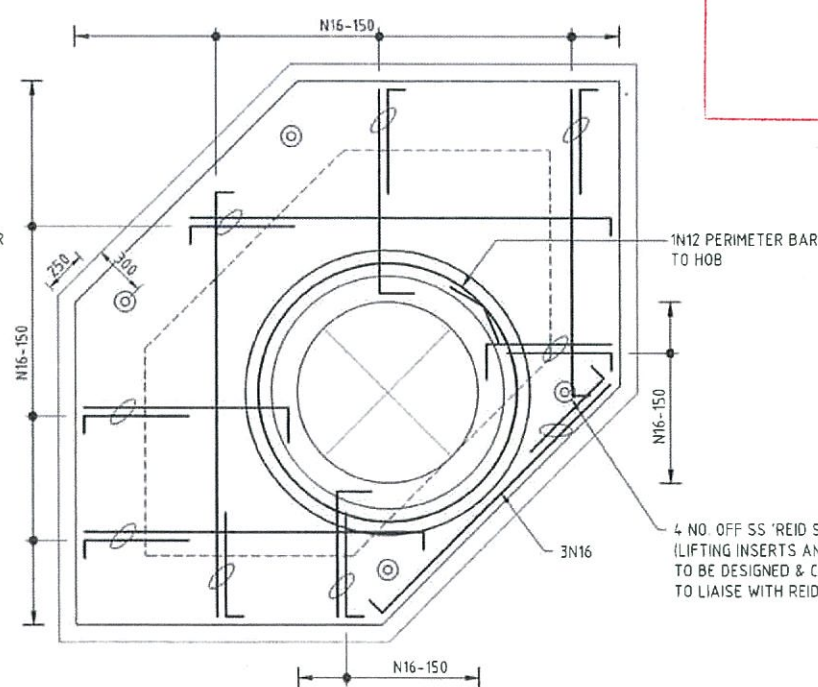
BASE SLAB BOTTOM REINFORCEMENT PLAN
NTS



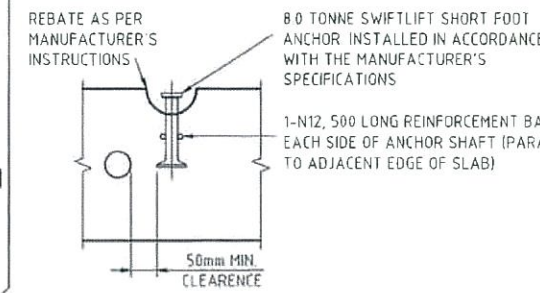
BASE SLAB TOP REINFORCEMENT PLAN
NTS



ROOF SLAB BOTTOM REINFORCEMENT PLAN
NTS



ROOF SLAB TOP REINFORCEMENT PLAN
NTS



- NOTE:
1. MINIMUM LIFTING ANGLE TO BE 60° FROM HORIZONTAL
 2. SPREADER BAR TO BE USED TO ENSURE ALL LIFTING POINTS UTILISED
 3. CONCRETE TO HAVE A 14 DAY MINIMUM STRENGTH AT TIME OF LIFTING
 4. LIFTING DESIGN BASED ON NORMAL CRANE HOIST SPEEDS AND NO TRANSPORT DURING LIFTING

TYPICAL SECTION
REID SWIFTLIFT ANCHOR LIFTING POINT

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

21 SEP 2015

MEDQ

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. FOR FURTHER INFORMATION CONTACT PH: 3856 7033 EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT TONY FACEY PH: 0412 436 579

NOTES:

1. REINFORCEMENT COVER

THE CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS UNO.

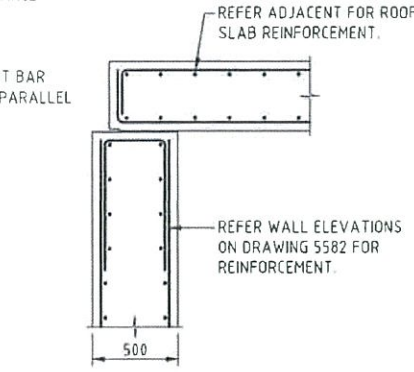
COMPONENT	COVER (mm) UNO.
PIT BASE SLAB	50 BOTTOM 75 TOP
PIT ROOF SLAB	75 BOTTOM 50 TOP
PIT WALLS	50 EXTERNAL 75 INTERNAL

3. REINFORCEMENT LAPS

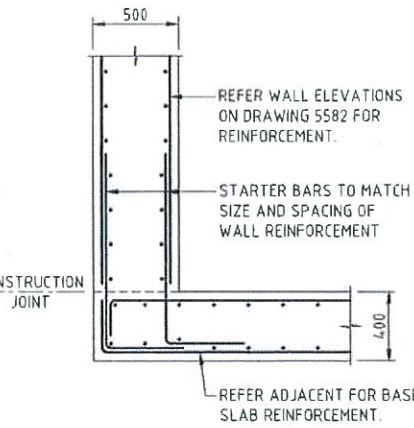
BAR LAPS SHALL BE AS FOLLOWS UNO. :-

BAR SIZE	BAR LAPS (mm) FOR SLABS		BAR LAPS (mm) FOR WALLS	
	TOP BAR	BTM BAR	TOP BAR	BTM BAR
N12	500	500	650	500
N16	700	700	950	700
N20	950	950	1250	950
N24	1250	1250	1600	1250

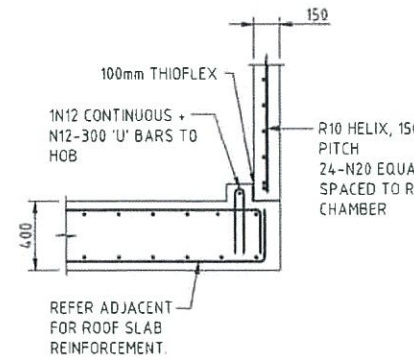
4. WHERE DIFFERENT BAR SIZES ARE SHOWN LAPPING, LAP LENGTH SHALL SUIT SMALLER BAR SIZE.



TYPICAL WALL TO ROOF SLAB DETAIL
SCALE 1:20



TYPICAL WALL TO BASE SLAB DETAIL
SCALE 1:20



TYPICAL ROOF SLAB TO RISER CHAMBER WALL DETAIL
SCALE 1:20

ENGINEERING CERTIFICATION

SIGNED: [Signature] DATE: 02/07/2015

NAME OF SIGNATORY (PRINT): MARK HICKEY

RPEQ NUMBER: 1649

COMPANY NAME: Cardno Pty Ltd

AMENDMENT A

PAKEE BALA [Signature] DATE: 03/07/15

QUEENSLAND URBAN UTILITIES DELEGATE

(VALID FOR 12 MONTHS FROM DATE SHOWN)

ORIGINAL ISSUE

ORIGINAL SIGNED BY PAKEE BALA DATE: 07/11/2014

QUEENSLAND URBAN UTILITIES DELEGATE

(VALID FOR 12 MONTHS FROM DATE SHOWN)

CLIENT: Lend Lease & RNA, Cardno Pty Ltd

CONTACT: Dale Stanton - 07 3310 2402

Q.U.U. AUDITOR: AUDIT & COMPLIANCE OFFICER, QUEENSLAND URBAN UTILITIES

CONTACT: Tony Facey 0412 436 579 (m)

B.C.C. DESIGN FILE No:

AS CONSTRUCTED DETAILS FOR AMEND.

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

SIGNED: [Signature] DATE: [Blank]

NAME OF SIGNATORY: [Blank]

RPEQ No. or LICENCE: [Blank]

COMPANY NAME: [Blank]

START DATE: [Blank] FINISH DATE: [Blank]



SHEET No. 12 OF 12

QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-012

AMEND. A

FOR CONSTRUCTION

A.H.D. DATUM Grid Scale AS SHOWN Size A1

Drawing Number 161163-050-CD-C-301-5581

Revision 04

Rev	Date	Description	Des.	Verf.	Aspd.
04	03/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
03	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
02	22/06/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
01	25/05/2015	EDC CERTIFICATION ISSUE	ZA	DS	MH
00	10/12/2014	AFC	ML	DS	MH

Verified: DALE STANTON Date: [Blank]

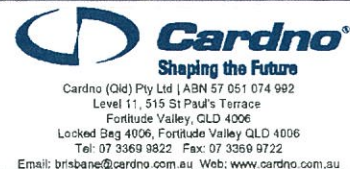
Approved: [Signature] Date: 3/7/15

MARK HICKEY RPEQ No. 1649



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Drawn: LS Date: Jun-15

Checked: DS Date: Jun-15

Designed: BT Date: Jun-15

Cardno Ref. No: A10697-050

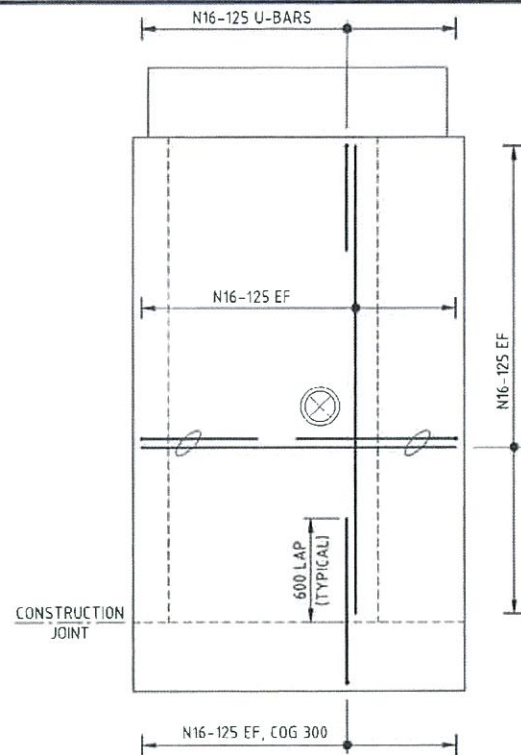
Client: RNA & LEND LEASE

RNA SHOWGROUND REDEVELOPMENT ALEXANDRIA STREET SEWER TRUNK

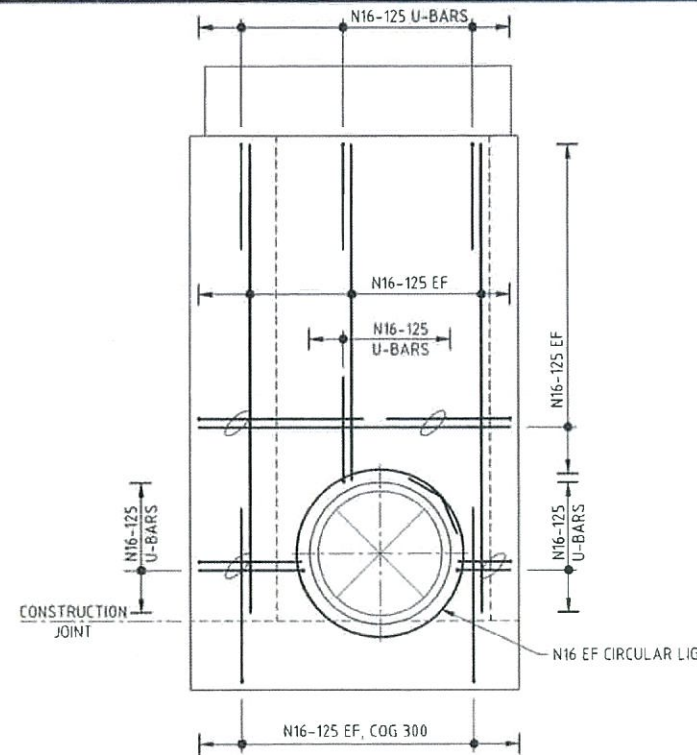
PIT 2/22 BASE AND ROOF SLAB BOTTOM AND TOP REINFORCEMENT PLANS

DATE PLOTTED: 3 July 2015 12:10 PM BY: ZAND ALALI

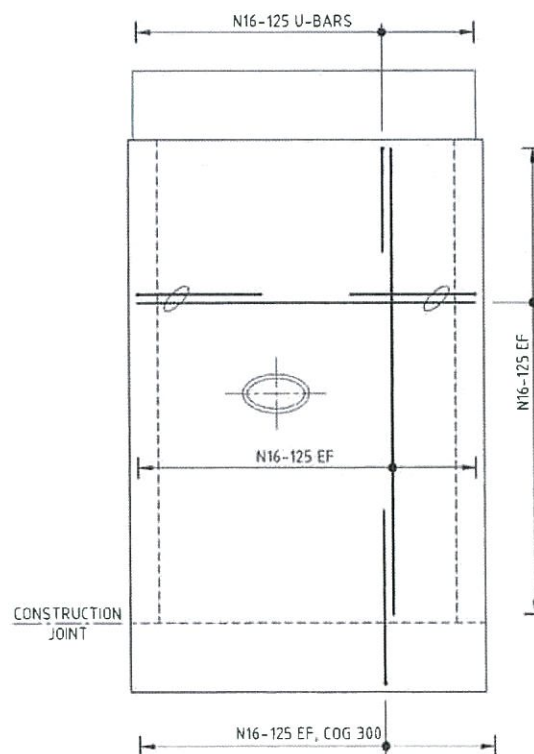
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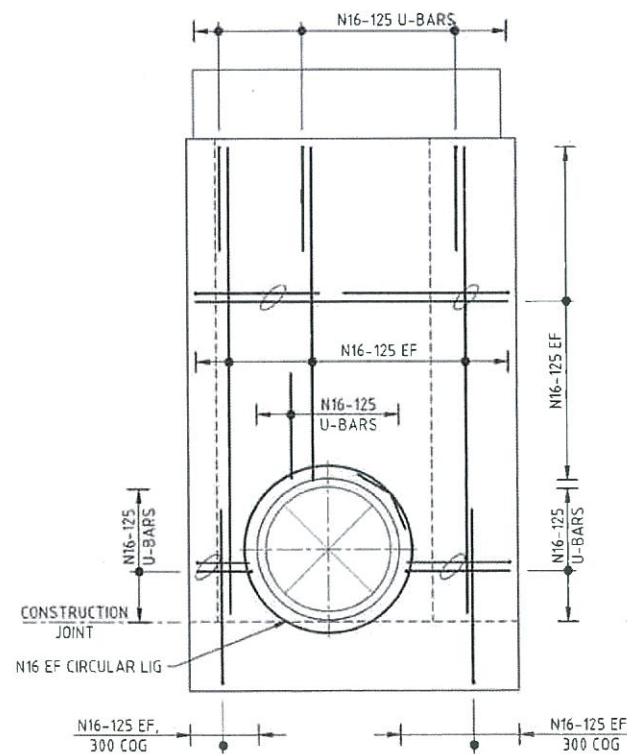
ELEVATION E1
N.T.S.



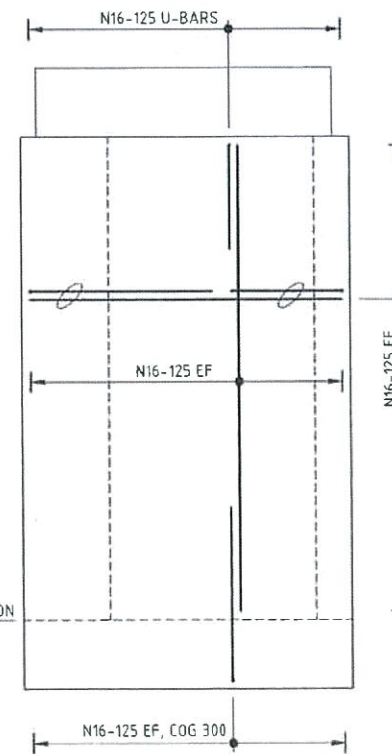
ELEVATION E2
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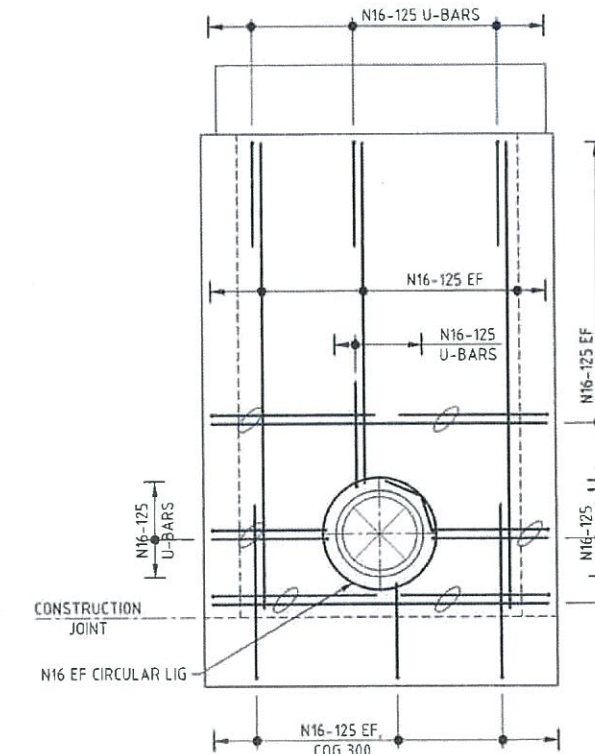
ELEVATION E3
N.T.S.



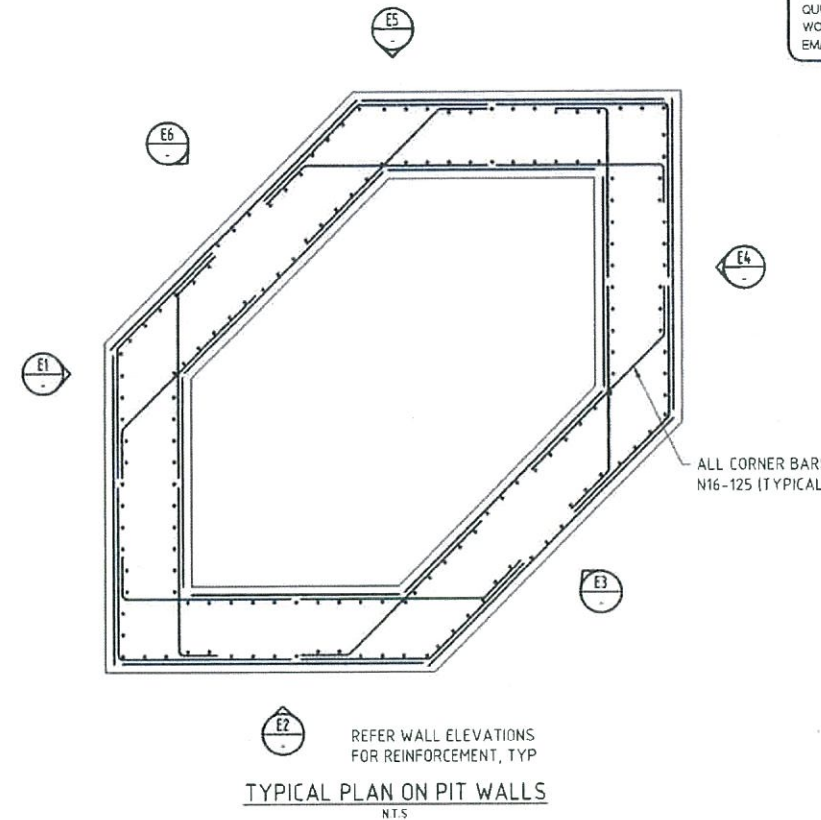
ELEVATION E4
N.T.S.



ELEVATION E5
N.T.S.



ELEVATION E6
N.T.S.



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PLEASE CONTACT TONY FACEY PH: 0412 436 579

NOTES:
1. REFER TO DRAWING 5581 FOR COVER TO REINFORCEMENT AND LAP SCHEDULE

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL
21 SEP 2015
MEDQ

ENGINEERING CERTIFICATION	
SIGNED: <i>PAKEE BALA</i>	DATE: 02/07/2015
NAME OF SIGNATORY (PRINT):	MARK HICKEY
RPEQ NUMBER:	1649
COMPANY NAME:	Cardno Pty Ltd

AMENDMENT A
PAKEE BALA DATE 03/10/15
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SIGNED)

ORIGINAL ISSUE
ORIGINAL SIGNED BY *PAKEE BALA* DATE 07/11/2014
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SIGNED)

CLIENT: Lend Lease & RNA
Cardno Pty Ltd
CONTACT: Dale Stanton - 07 3310 2402
C.U.U. AUDITOR: AUDIT & COMPLIANCE OFFICER
QUEENSLAND URBAN UTILITIES
CONTACT: Tony Facey 0412 436 579 (m)
B.C.C. DESIGN FILE No.

AS CONSTRUCTED DETAILS FOR AMEND.
I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS
SIGNED: *PAKEE BALA* DATE: *03/10/15*
NAME OF SIGNATORY
RPEQ No. or LICENCE
COMPANY NAME
START DATE
FINISH DATE



SHEET No. 11 OF 11
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/6-0145-011
AMEND. A

Rev	Date	Description	Des.	Verif.	Appd.
04	03/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
03	01/07/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
02	22/06/2015	REVISED EXTENT SUBMISSION TO QUU	ZA	DS	MH
01	25/05/2015	EDG CERTIFICATION ISSUE	ZA	DS	MH
00	18/11/2014	AFC	ML	DS	MH

Verified
DALE STANTON
Approved
PAKEE BALA
MARK HICKEY
RPEQ No. 1649
3/7/15



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Cardno
Shaping the Future
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Locked Bag 4006, Fortitude Valley QLD 4006
Tel: 07 3360 9822 Fax: 07 3369 9722
Email: brisbane@cardno.com.au Web: www.cardno.com.au

Drawn: LS Date: Jun-15
Checked: DS Date: Jun-15
Designed: BT Date: Jun-15
Cardno Ref. No.: A10697-050
Client: RNA & LEND LEASE
RNA SHOWGROUND REDEVELOPMENT
ALEXANDRIA STREET
SEWER TRUNK
PIT 2/22
WALL ELEVATIONS AND SECTION

FOR CONSTRUCTION
A.H.D. DATUM
Grd. AS SHOWN
Scale: AS SHOWN
Size: A1
Drawing Number: 161163-050-CD-C-301-5582
Revision: 04