



ELECTRICAL DESIGN GROUP

ELECTRICAL BUILDING SERVICES CONSULTANTS

P.O. Box 15, SHERWOOD Q. 4075

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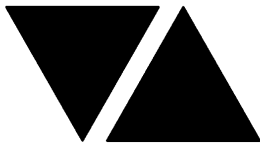
C3379a - THE LION RICHLANDS - CARPARK UPGRADE
ELECTRICAL SERVICES CONTRACT DOCUMENT SCHEDULE
REVISION D - 02 APRIL 2025

C3379a-0001(D).xls

ISSUING INFORMATION				DATE OF ISSUE							
				DAY	25	25	14	02			
				MONTH	10	01	02	04			
				YEAR	24	25	25	25			
REASON FOR ISSUE					P	N	P	A			
A = APPROVAL C = CONSTRUCTION N = COORDINATION P = PRELIMINARY T = TENDER											

DISTRIBUTION				NUMBER OF COPIES							
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DOCUMENTS		REVISION									
C3379a-E01.dwg	LEGEND & LOCATION PLAN	A	B	C	D						
C3379a-E02.dwg	CARPARK PLAN	A	B	C	D						
C3379a-E03.dwg	FIRE TANK ENCLOSURE PLANS		A	B	C						
C3379a-E04.dwg	MDB-1 & CABLE ACCESS PLANS		A	B	C						
C3379a-E05.dwg	POWER SCHEMATICS		A	B	C						
C3379a-E06.dwg	SWITCHBOARD LOCATIONS		A	B	C						
C3379a-E07.dwg	NOTES 1		A	B	C						
C3379a-E08.dwg	NOTES 2		A	B	C						
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C3379a-0002.xls	EQUIPMENT SCHEDULE			A							
C3379a-0004.xls	DISTRIBUTION BOARD DB-M SCHEDULE			A							
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C3379a - THE LION RICHLANDS - CARPARK UPGRADE

C3379a-0002(A).xls

ELECTRICAL EQUIPMENT SCHEDULE

REVISION A - 14 FEBRUARY 2025

THE EQUIPMENT SUPPLIER CONTACT DETAILS MAY BE AVAILABLE ON THE EDG WEBSITE VIA THE FOLLOWING LINK www.edg.net.au/links.html					
TYPE	LAMPS	DESCRIPTION	COLOUR / ACCESSORY	CATALOGUE No	REV
L1	36W LED 4000K	1200 LONG SURFACE MOUNTED IP65 DIFFUSED BATTEN C/W INTEGRAL ELECTRONIC CONTROL GEAR AND PRESENCE DETECTION SENSOR	LIGHT GREY	GAMMA ILLUMINATION STORM 1558-CCT-36W-MS	A
L2	20W LED 4000K	600 LONG SURFACE MOUNTED IP65 DIFFUSED BATTEN C/W INTEGRAL ELECTRONIC CONTROL GEAR AND PRESENCE DETECTION SENSOR	LIGHT GREY	GAMMA ILLUMINATION STORM 1557-CCT-20W-4K-MS	A
L3	100W 4000K LED	WALL MOUNTED CARPARK LIGHT C/W INTEGRAL DRIVER MOUNT THE FITTING AS HIGH AS PRACTICAL	BLACK FITTING	MELEC ML-ROX-100-4K-BK	A
GL01	8.5W 3000K LED	120 DIA 850 HIGH BOLLARD C/W INTEGRAL DRIVER AND A REINFORCED CONCRETE FOOTING. CONFIRM THE FINAL POSITION AND ORIENTATION ON SITE WITH THE ARCHITECT.	BLACK	LIGHTING COLLECTIVE SLEEK BOLLARD LIGHT	A
GL02	3W 3000K LED	600 HIGH GARDEN LIGHT C/W REMOTE DRIVER AND A REINFORCED CONCRETE FOOTING. CONFIRM THE FINAL POSITION AND ORIENTATION ON SITE WITH THE ARCHITECT. LOCATE THE DRIVERS WITHIN AN ADJACENT GL01 FITTING OR IN AN ADJACENT LIGHT POLE. NOT THE DRIVER POSITION ON THE AS CONSTRUCTED DOCUMENTS. IT IS ACCEPTABLE TO SUPPLY MULTIPLE GL02 FITTINGS FROM A SUITABLE SIZED DRIVER.	BLACK	NOCTURNAL LIGHTING BEETLE NL0070 PB-D-30-SP6-3W-4	A
GL03	33W RGB LED	PLINTH MOUNTED ADJUSTABLE RGB TREE LIGHT. PROVIDE THE FITTING WITH A REINFORCED CONCRETE FOOTING / PLINTH PROVIDED A PROGRAMMABLE CONTROLLER LOCATED WITHIN THE TANK ROOM TO CONTROL THE GL03 FITTING. ENSURE THE CONTROLLER CAN GROUP ALL OF THE GL03 FITTINGS AS WELL AS CONTROL EACH GL03 FITTING INDIVIDUALLY. CONFIRM THE FINAL POSITION AND ORIENTATION ON SITE WITH THE ARCHITECT. IN ADDITION TO THE SPECIFIED WORKS, PROVIDE A PC SUM OF \$1,000.00 PLUS GST FOR EACH GL03 FITTING TO SUPPLY EACH GL03 WITH ADDITIONAL ACCESSORIES POST PRACTICAL COMPLETION.	BLACK	PHILIPS COLOURBURST RGBW POWERCORE GEN2	A
LP01	50W 4000K LED	9M POLE AND CARPARK LIGHT C/W INTEGRAL DRIVER ALL CONDUITS ARE TO HAVE A SPARE DRAW WIRE AND BE SHOWN ON THE AS CONSTRUCTED DOCUMENTS.	BLACK FITTING BLACK POLE	MELEC ML-ROX-50-4K-BK	A
LP02	50W 4000K LED	9M POLE AND CARPARK LIGHT C/W INTEGRAL DRIVER ALL CONDUITS ARE TO HAVE A SPARE DRAW WIRE AND BE SHOWN ON THE AS CONSTRUCTED DOCUMENTS.	BLACK FITTING BLACK POLE	MELEC ML-ROX-50-4K-BK	A
LP03	100W 4000K LED	9M POLE AND CARPARK LIGHT C/W INTEGRAL DRIVER ALL CONDUITS ARE TO HAVE A SPARE DRAW WIRE AND BE SHOWN ON THE AS CONSTRUCTED DOCUMENTS.	BLACK FITTING BLACK POLE	MELEC ML-ROX-100-4K-BK	A



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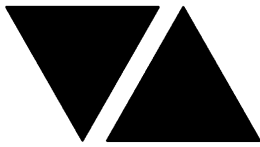
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ELECTRICAL EQUIPMENT SCHEDULE

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TYPE	LAMPS	DESCRIPTION	COLOUR / ACCESSORY	CATALOGUE No	REV
EX	LED	EXIT LIGHT: MAINTAINED WEATHER PROOF 24M VIEWING DISTANCE EXIT LIGHT C/W DIFFUSERS & DIRECTIONAL ARROWS AS SHOWN. CEILING OR WALL MOUNT BETWEEN 2100mm & 2700mm AFFL IF THERE IS NO VERTICAL SURFACE TO MOUNT THE FITTING ON WITHIN THIS RANGE CONFIRM THE MOUNTING HEIGHT WITH THE ENGINEER. AS2293 CLASSIFICATION C0-D1.25- C90-D2	WHITE	CLEVERTRONICS LWELED	A
EMERGENCY PACK		LIGHT FITTINGS THAT ARE DESIGNATED AS BEING PROVIDED WITH AN EMERGENCY PACK ARE TO BE PROVIDED WITH AN INTEGRAL AS2293 EMERGENCY PACK. THE FITTINGS ARE TO BE NON MAINTAINED WITH ALL LAMPS SWITCHED AS PER THE LIGHTING CONTROL FOR THAT SPACE UNLESS NOTED OTHERWISE. REFER TO THE SPECIFICATION FOR FURTHER DETAILS OF THE CONFIGURATION AND SWITCHING OF EMERGENCY LIGHTS.			A
SPECIAL PURPOSE POWER OUTLET		SPECIAL PURPOSE POWER OUTLET. MOUNT AT 300mm AFFL U.N.O. RATING 10A U.N.O. SIZE AND TYPE AS NOTED	-	-	A
SINGLE POWER OUTLET		SINGLE POWER OUTLET C/W CIRCUIT IDENTIFICATION ON THE FACEPLATE BEHIND THE SURROUND MOUNT AT 300 AFFL U.N.O.	WHITE	CLIPSAL C2000 SERIES	A
DOUBLE POWER OUTLET		DOUBLE POWER OUTLET C/W CIRCUIT IDENTIFICATION ON THE FACEPLATE BEHIND THE SURROUND MOUNT AT 300 AFFL U.N.O.	WHITE	CLIPSAL C2000 SERIES	A
WEATHERPROOF POWER OUTLET (WP)		IP54 WEATHERPROOF SINGLE / DOUBLE POWER OUTLET AS NOTED ON DRAWING C/W COVER FLAP OVER SOCKET. MOUNT AT MINIMUM 1100mm AFFL U.N.O. RATING 10A U.N.O.	-	CLIPSAL WSCF227F	A
SIGN CONNECTION		COORDINATE THE LOCATION AND CONNECTION WITH THE SIGN CONTRACTOR ENSURING THE GPO / ISOLATORS ARE PROVIDED WITH APPROPRIATE WEATHER PROTECTION AND ARE CONCEALED FROM VIEW.			A
SINGLE-PHASE ISOLATOR		SINGLE-PHASE WEATHERPROOF ISOLATOR. MOUNT AT 1350mm AFFL U.N.O. RATING 20A U.N.O. CONNECT TO EQUIPMENT VIA FLEXIBLE CONDUIT.	-	CLIPSAL WHT20	A
THREE-PHASE ISOLATOR		THREE-PHASE WEATHERPROOF ISOLATOR. MOUNT AT 1350mm AFFL U.N.O. RATING 20A U.N.O. CONNECT TO EQUIPMENT VIA FLEXIBLE CONDUIT. "RSD" DENOTES ROLLER SHUTTER DOOR SUPPLY - COORDINATE LOCATION ONSITE WITH MOTOR.	-	CLIPSAL WHT35	A
FIRE INDICATOR PANEL (FIP)		EXISTING AS 1670.1 FIRE INDICATOR PANEL TO BE UPGRADED AS NECESSARY TO ACCOMMODATE TH PROPOSED WORKS INCLUDING A NEW ZONE PLAN RESUPPLY THE EXISTING FIP FROM THE NEW MDB-1			A
FIRE EVACUATION HORN		SURFACE MOUNTED TWO-TONE 30W ALERT AND EVACUATION HORN SPEAKER TO AS1670.1 C/W 100V MULTI-TAP TRANSFORMER. MOUNT AT HIGH LEVEL.			A



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TYPE	LAMPS	DESCRIPTION	COLOUR / ACCESSORY	CATALOGUE No	REV
SMOKE DETECTOR		SURFACE MOUNTED SMOKE DETECTOR TO AS1670.1			A
THERMAL DETECTOR		SURFACE MOUNTED THERMAL DETECTOR TO AS1670.1			A
COMMUNICATIONS RACK T (CR-T)		PROVIDE THE COMMUNICATIONS RACK T AS A HINGED WALL MOUNTED 12RU 600 DEEP RACK C/W VENTILATED TOP BOTTOM AND SIDE PANELS AS WELL AS A LOCKABLE CLEAR DOOR AND A 6 PORT POWER RAIL. PROVIDE A FOBOT AS PER THE NOTES. MOUNT THE RACK OVER THE ASSOCIATED GPO AT HIGH LEVEL.			A
PIT 1		PROVIDE A REINFORCED MASONRY INSITU PIT / TRENCH BELOW THE MDB-1 FOR THE FULL LENGTH AND WIDTH OF THE MDB-1 AS PER THE MDB-1 ROOM SECTION DETAIL. PROVIDE AS PART OF THE ELECTRICAL WORKS THE SWITCHBOARD AND LID SUPPORT SYSTEM AND THE TRENCH LIDS. PROVIDE THE STRUCTURAL SUPPORT SYSTEM AS HOT DIPPED GALVANISED STEEL. PROVIDE THE TRENCH LIDS AS SEALED / PAINTED 25MM THICK MARINE GRADE PLY WITH LIFTING HOLES WITH EACH PART NO HEAVIER THAN 20 kg. PROVIDE THE TRENCH WITH AN AUTOMATIC SUMP PUMP TO DRAIN TO THE STORMWATER SYSTEM. PROVIDE CABLE SUPPORTS WITHIN THE TRENCH TO ENSURE THAT THERE ARE NO CABLES WITHIN 50MM OF THE TRENCH FLOOR. PROVIDE SHOP DRAWINGS OF THE PIT, THE LID AND SUPPORT SYSTEM FOR APPROVAL.			A
PIT 2		PROVIDE A REINFORCED MASONRY INSITU PIT WITH A MINIMUM CLEAR INTERNAL DIMENSION OF 2,400 X 2,400 X 900 DEEP. PROVIDE THE PIT WITH A PROPRIETARY INLAY CLASS C LID AND LID SUPPORT SYSTEM. INFILL THE LID TO MATCH THE ADJACENT SURROUNDING HARDSCAPE FINISH. PROVIDE THE PIT WITH A DRAIN TO THE STORMWATER SYSTEM. PROVIDE CABLE SUPPORTS WITHIN THE PIT TO ENSURE THAT THERE ARE NO CABLES WITHIN 50MM OF THE PIT FLOOR. PROVIDE SHOP DRAWINGS OF THE PIT, THE LID AND SUPPORT SYSTEM FOR APPROVAL.			A
PIT 3		PROVIDE A REINFORCED MASONRY INSITU PIT WITH A MINIMUM CLEAR INTERNAL DIMENSION OF 2,400 X 2,400 X 900 DEEP. PROVIDE THE PIT WITH A PROPRIETARY INLAY CLASS C LID AND LID SUPPORT SYSTEM. INFILL THE LID TO MATCH THE ADJACENT SURROUNDING HARDSCAPE FINISH. PROVIDE THE PIT WITH A DRAIN TO THE STORMWATER SYSTEM. PROVIDE CABLE SUPPORTS WITHIN THE PIT TO ENSURE THAT THERE ARE NO CABLES WITHIN 50MM OF THE PIT FLOOR. PROVIDE SHOP DRAWINGS OF THE PIT, THE LID AND SUPPORT SYSTEM FOR APPROVAL.			A
PIT 4		PROVIDE A REINFORCED MASONRY INSITU PIT WITH A MINIMUM CLEAR INTERNAL DIMENSION OF 1,200 X 1,200 X 900 DEEP. PROVIDE THE PIT WITH A PROPRIETARY INLAY CLASS C LID AND LID SUPPORT SYSTEM. INFILL THE LID TO MATCH THE ADJACENT SURROUNDING HARDSCAPE FINISH. PROVIDE THE PIT WITH A DRAIN TO THE STORMWATER SYSTEM. PROVIDE CABLE SUPPORTS WITHIN THE PIT TO ENSURE THAT THERE ARE NO CABLES WITHIN 50MM OF THE PIT FLOOR. PROVIDE SHOP DRAWINGS OF THE PIT, THE LID AND SUPPORT SYSTEM FOR APPROVAL. CONNECT THE PIT TO THE GENERATOR VIA UNDERGROUND CONDUITS.			A
PIT 5		PROVIDE PIT 5 AS A POWER PIT AND A COMMUNICATIONS PIT. PROVIDE THE POWER PIT AS 600 X 600 CLEAR INTERNAL X 900 DEEP PLASTIC POWER PIT C/W A REINFORCED CONCRETE SURROUND AND A CLASS B STEEL LID WITH A SLIP RESISTANCE OF R10. PROVIDE THE COMMUNICATIONS PIT AS 350 X 350 CLEAR INTERNAL X 700 DEEP PLASTIC POWER PIT C/W A REINFORCED CONCRETE SURROUND AND A CLASS B STEEL LID WITH A SLIP RESISTANCE OF R10. PROVIDE THE POWER PIT LID WITH A PERMANENT LABEL ELECTRICITY THE COMMUNICATIONS PIT LID WITH A PERMEANT LABEL "COMMUNICATIONS". SUBMIT DETAILS OF THE PITS, LIDS, LABELS AND AN INSTALLATION SECTION FOR APPROVAL.			A



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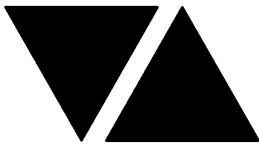
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ELECTRICAL EQUIPMENT SCHEDULE

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TYPE	LAMPS	DESCRIPTION	COLOUR / ACCESSORY	CATALOGUE No	REV
PIT 6		PROVIDE PIT 6 AS A POWER PIT AND A COMMUNICATIONS PIT. PROVIDE THE POWER PIT AS 450 X 450 CLEAR INTERNAL X 700 DEEP PLASTIC POWER PIT C/W A REINFORCED CONCRETE SURROUND AND A CLASS B STEEL LID WITH A SLIP RESISTANCE OF R10. PROVIDE THE COMMUNICATIONS PIT AS 350 X 350 CLEAR INTERNAL X 700 DEEP PLASTIC POWER PIT C/W A REINFORCED CONCRETE SURROUND AND A CLASS B STEEL LID WITH A SLIP RESISTANCE OF R10. PROVIDE THE POWER PIT LID WITH A PERMANENT LABEL ELECTRICITY THE COMMUNICATIONS PIT LID WITH A PERMEANT LABEL "COMMUNICATIONS". SUBMIT DETAILS OF THE PITS, LIDS, LABELS AND AN INSTALLATION SECTION FOR APPROVAL.			A
METER BOARD / MSB		NEW QECM V4 COMPLIANT METER BOARD / SITE MSB TO BE SUPPLIED FROM THE EXISTING ENERGEX PADMOUNT SUBSTATION.. REFER TO THE NOTES AND POWER SCHEMATIC			A
MDB-1		NEW BUILDING MAIN DISTRIBUTION BOARD 1 TO BE SUPPLIED FROM THE NEW METER BOARD / SITE MSB. REFER TO THE NOTES AND POWER SCHEMATIC			A
MDB-2		EXISTING BUILDING MAIN DISTRIBUTION BOARD 2 TO BE UPGRADED AND RESUPPLIED FROM THE NEW MDB-1. REFER TO THE NOTES AND POWER SCHEMATIC			A
DB-K		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
DB-G		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
MSSB3		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
MSSB2		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
DB-S		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
DB-P		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
DB-DS		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
DB-T		NEW TANK ROOM DISTRIBUTION BOARD TO BE SUPPLIED FROM THE NEW MDB-1. REFER TO THE DB-T SCHEDULE, NOTES AND POWER SCHEMATIC			A
MSSB T		MECHANICAL SERVICES SWITCHBOARD PROVIDED BY THE MECHANICAL SUB CONTRACTOR. COORDINATE THE SUBMAIN CONNECTION WITH THE MECHANICAL SUB CONTRACTOR ON SITE.			A
DB-M		NEW SWITCHROOM DISTRIBUTION BOARD TO BE SUPPLIED FROM THE NEW MDB-1. REFER TO THE DB-M SCHEDULE, NOTES AND POWER SCHEMATIC			A



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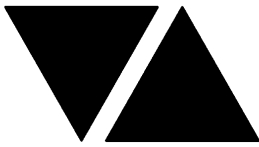
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MSSB1		EXISTING DISTRIBUTION BOARD TO BE RESUPPLIED FROM THE NEW MDB-1			A
DB-ED		NEW EXTERNAL DISPLAY DISTRIBUTION BOARD TO BE SUPPLIED FROM DB-S. REFER TO THE DBS-SCHEDULE AND NOTES.			A
DB FIELD 2 LIGHTING		EXISTING DISTRIBUTION BOARD SUPPLIED FROM MDB-2 TO REMAIN AS IS			A
MAIN FIELD TOWERS 1 & 5		EXISTING DISTRIBUTION BOARD SUPPLIED FROM MDB-2 TO REMAIN AS IS			A
SOLAR		EXISTING DISTRIBUTION BOARD SUPPLIED FROM MDB-2 TO REMAIN AS IS			A
DB-FR		EXISTING DISTRIBUTION BOARD TO BE REMAIN AS IS AND BE RESUPPLIED FROM MDB-2. THE EXISTING DB-FR SUBMAINS ARE TO BE REDIRECTED AND EXTENDED AS NECESSARY TO FACILITATE SUPPLYING DB-FR FROM MDB-2.			A
DB-4		EXISTING DISTRIBUTION BOARD TO BE REMAIN AS IS AND BE RESUPPLIED FROM MDB-2. THE EXISTING DB-4 SUBMAINS ARE TO BE REDIRECTED AND EXTENDED AS NECESSARY TO FACILITATE SUPPLYING DB-4 FROM MDB-2.			A
DB-DR		EXISTING DISTRIBUTION BOARD TO BE REMAIN AS IS AND BE RESUPPLIED FROM MDB-2. THE EXISTING DB-DR SUBMAINS ARE TO BE REDIRECTED AND EXTENDED AS NECESSARY TO FACILITATE SUPPLYING DB-DR FROM MDB-2.			A
DB-B		EXISTING DISTRIBUTION BOARD TO BE REMAIN AS IS AND BE RESUPPLIED FROM MDB-2. THE EXISTING DB-B SUBMAINS ARE TO BE REDIRECTED AND EXTENDED AS NECESSARY TO FACILITATE SUPPLYING DB-B FROM MDB-2.			A
LIFT 1		EXISTING LIFT TO BE RESUPPLIED FROM THE NEW MDB-1			A
LIFT 2		EXISTING LIFT TO BE RESUPPLIED FROM THE NEW MDB-1			A
EXISTING MSB		EXISTING SITE MSB AND ALL ASSOCIATED CABLING TO BE REMOVED AS PER THE NOTE.			A
MDB-A		EXISTING BUILDING MAIN DISTRIBUTION BOARD MDB-A AND ALL ASSOCIATED CABLING TO BE REMOVED AS PER THE NOTE.			A
MDB-B		EXISTING BUILDING MAIN DISTRIBUTION BOARD MDB-B AND ALL ASSOCIATED CABLING TO BE REMOVED AS PER THE NOTE.			A
METER 1 (M1)		NEM CODE COMPLIANT QECCM V4 COMPLIANT CT RETAIL METER INCLUDING ALL ASSOCIATED COMPONENTS			A



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TYPE	LAMPS	DESCRIPTION	COLOUR / ACCESSORY	CATALOGUE No	REV
METER 2 (M2)		SOLAR CONTROL SYSTEM DEMAND MONITORING METER			A
METER 3 (M3)		GENERATOR CONTROL SYSTEM DEMAND MONITORING METER			A
METER 4 (M4)		FUTURE NEM CODE COMPLIANT QECM V4 COMPLIANT CT RETAIL METER INCLUDING ALL ASSOCIATED COMPONENTS			A
METER 5 (M5)		FUTURE SOLAR CONTROL SYSTEM DEMAND MONITORING METER			A
METER 6 (M6)		FUTURE GENERATOR CONTROL SYSTEM DEMAND MONITORING METER			A
CABLE TRAY		GALVANIZED CABLE TRAY SIZED AS INDICATED COMPLIANT WITH AS1170.4			A

**C3379a - THE LION RICHLANDS - CARPARK UPGRADE
DISTRIBUTION BOARD DB-M (MDB-1 SWITCHROOM)
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DISTRIBUTION BOARD DB-T (TANK ROOM)

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FAULT CURRENT: 6KA USING CASCADING CHASSIS SIZE: 60 POLES CHASSIS RATING: 250A PHASES: 3							REV
MAIN SWITCH: 250A NON AUTO LOAD BREAK							A
SUPPLIED FROM: MDB-1							A
SUPPLY CABLE: 4C70							A
PROVIDE THE DB WITH A FULL WIDTH EMPTY DIN RAIL TO ACCOMMODATE FUTURE CONTACTORS AND CONTROLS. PROVIDE THE DB WITH AN AS2293 EMERGENCY LIGHTING CONTROL SYSTEM TO CONTROL THE ASSOCIATED EMERGENCY LIGHTS. PROVIDE THE DB WITH SURGE PROTECTION. REFER TO THE NOTES FOR ADDITIONAL REQUIREMENTS							A
CIRC	PH	CIRCUIT BREAKER (amps)	CONTROL EQUIPMENT	CABLE SIZE (mm ²)	LOCATION	CIRCUIT USE	A
P1	1	20	RCBO	2.5	TANK ROOM	CR-T	A
P2	3	40		6.0	TANK ROOM	MSSB-T	A
P3	3	20	RCBO	2.5	TANK ROOM	STORM WATER	A
P4	1	20	RCBO	2.5	TANK ROOM	GPO	A
P5	1	20	RCBO	2.5	TANK ROOM	HYD PUMP 1	A
P6	1	20	RCBO	2.5	TANK ROOM	HYD PUMP 2	A
P7	3	20	RCBO	2.5	TANK ROOM	HYD JACK 1	A
P8	3	20	RCBO	2.5	TANK ROOM	HYD JACK 2	A
P9	1	20	RCBO	2.5	TANK ROOM	SPK PUMP 1	A
P10	1	20	RCBO	2.5	TANK ROOM	SPK PUMP 2	A
P11	3	20	RCBO	2.5	TANK ROOM	SPK JACK 1	A
P12	3	20	RCBO	2.5	TANK ROOM	SPK JACK 2	A
							A
							A
							A
							A
							A
							A
L1	1	20	RCBO	2.5	TANK ROOM	LIGHTS	A
L2	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	SHADE SALES	A
L3	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	POLE LIGHTS	A
L4	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	POLE LIGHTS	A
L5	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	POLE LIGHTS	A
L6	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	POLE LIGHTS	A
L7	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	GARDEN LIGHTS	A
L8	1	20	RCBO PE ON DUSK OFF DAWN	2.5	CARPARK	GARDEN LIGHTS	A
							A
							A
							A
							A
							A
							A



ELECTRICAL DESIGN GROUP

ELECTRICAL BUILDING SERVICES CONSULTANTS

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C3379a - THE LION RICHLANDS - CARPARK UPGRADE
DISTRIBUTION BOARD DB-ED (SITE ENTRY)
REVISION A - 14 FEBRUARY 2025

C3379a-0006(A).xls

FAULT CURRENT: 6KA USING CASCADING							REV
MAIN SWITCH: 250A NON AUTO LOAD BREAK							A
CHASSIS SIZE: 30 POLE							A
SUPPLIED FROM: DB-S							A
CHASSIS RATING: 250A							A
SUPPLY CABLE: 4C25							A
PHASES: 3							A
PROVIDE THE DB WITH A FULL WIDTH EMPTY DIN RAIL TO ACCOMMODATE FUTURE CONTACTORS AND CONTROLS. PROVIDE THE DB WITH AN AS2293 EMERGENCY LIGHTING CONTROL SYSTEM TO CONTROL THE ASSOCIATED EMERGENCY LIGHTS. PROVIDE THE DB WITH SURGE PROTECTION. EACH CUBICAL MUST BE 800 WIDE. REFER TO THE NOTES FOR ADDITIONAL REQUIREMENTS. PROVIDE A 3 PHASE 63AMP MCB IN DB-S TO SUPPLY DB-ED VIA A 4C+E 25MM SUBMAIN. CONFIRM THE DB-ED POSITION ON SITE. PROVIDE ALL NECESSARY CABLE ACCESS FOR THE DB-ED SUBMAIN AND CIRCUITS.							A
CIRC	PH	CIRCUIT BREAKER (amps)	CONTROL EQUIPMENT	CABLE SIZE (mm ²)	LOCATION	CIRCUIT USE	A
P1	1	20	RCBO	2.5	EXTERNAL	PYLON	A
P2	1	20	RCBO	2.5	EXTERNAL	PYLON	A
P3	1	20	RCBO	2.5	EXTERNAL	PYLON	A
P4	1	20	RCBO	2.5	EXTERNAL	PYLON	A
P5	1	20	RCBO	2.5	EXTERNAL	PYLON	A
P6	1	20	RCBO	2.5	EXTERNAL	PYLON	A
							A
							A
							A
							A
							A
							A
							A
							A
							A
L1	1	20	RCBO PE CELL ON DUSK OFF DAWN	2.5	DRIVEWAY	LIGHTING	A
							A
							A
							A

LEGEND

- 

L1: 1200 LONG IP65 LED BATTEN C/W INTEGRAL SENSOR.
- 

L2: 600 LONG IP65 LED BATTEN C/W INTEGRAL SENSOR.
- 

L3: 100W CARPARK LIGHT WALL MOUNTED AT HIGH LEVEL.
- 

Lx: TYPE AS NOTED BATTEN C/W INTEGRAL NON-MAINTAINED AS2293 EMERGENCY PACK.
- 

GL01: GARDEN BOLLARD 120 DIA, 850 HIGH.
- 

GL02: GARDEN LIGHT 600 HIGH.
- 

GL03: SURFACE MOUNTED RGB TREE LIGHT.
- 

LP01: 50W CARPARK LIGHT MOUNTED ON A 9m POLE.
- 

LP02: 50W CARPARK LIGHT MOUNTED ON A 9m POLE.
- 

LP03: 100W CARPARK LIGHT MOUNTED ON A 9M POLE.
- 

ELECTRICAL SERVICES SWITCHBOARD.
- 

SWITCHBOARD BY OTHERS.
- 

SINGLE PHASE ISOLATOR.
- 

THREE PHASE ISOLATOR.
- 

SINGLE POWER OUTLET.
- 

DOUBLE POWER OUTLET.
- 

ISOLATION LOAD-BREAK SWITCH.
- 

CIRCUIT BREAKER.
- 

CIRCUIT BREAKER C/W MOTOR CONTROL.
- 

FUSE.
- 

SINGLE PHASE.
- 

THREE PHASE.
- 

AS1670.1 THERMAL DETECTOR.
- 

AS1670.1 SMOKE DETECTOR.
- 

AS1670.1 EVACUATION HORN SPEAKER.
- 

FIRE INDICATOR PANEL.
- 

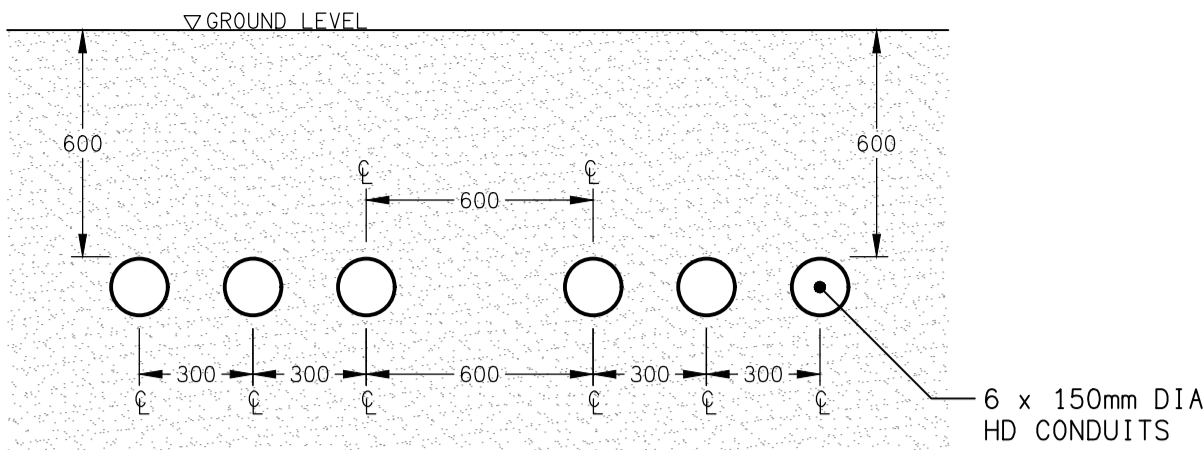
COMMUNICATIONS RACK CR-T.
- 

METER TYPE x.
- 

CABLE TRAY / LADDER. TYPE AND SIZE AS NOTED.
- 

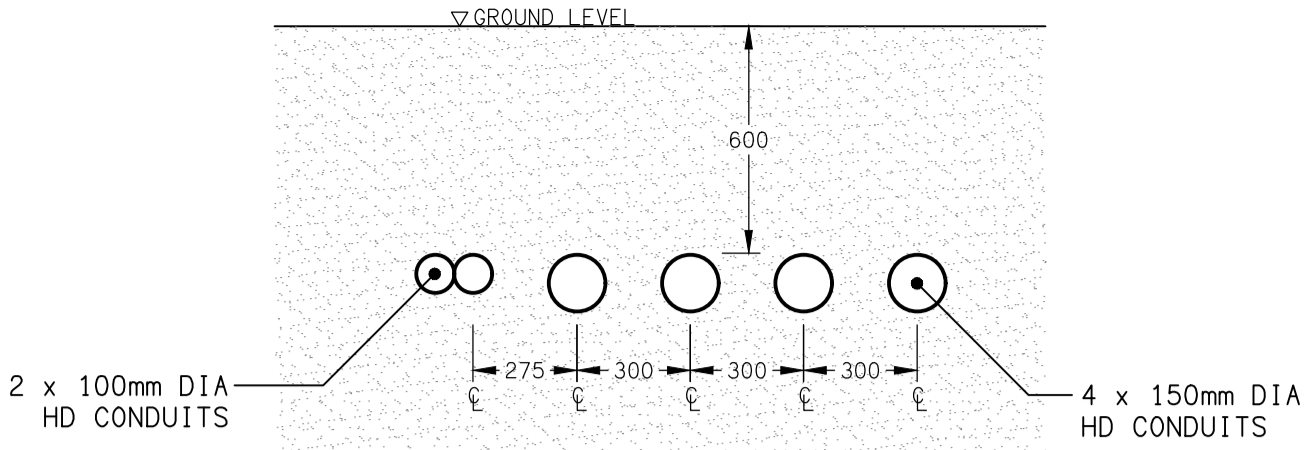
UNDERGROUND CONDUIT.
xC-- DESIGNATES NUMBER AND SIZE OF COMMUNICATIONS CONDUITS.
xP-- DESIGNATES NUMBER AND SIZE OF POWER CONDUITS.
- 

UNDERGROUND PIT TYPE x.



DETAIL A

TYPICAL CONSUMERS MAINS CONDUIT SECTION
NOT TO SCALE

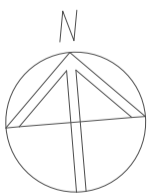


DETAIL B

GENERATOR MAINS CONDUIT SECTION
NOT TO SCALE

PROPOSED SUBTERRANEAN
FIRE TANK ENCLOSURE.
REFER DRAWING E03.

PROPOSED CARPARK PLAN.
REFER DRAWING E02.



PIT 4. 1200 x 1200 x
900 DEEP INSITU PIT C/W
INFILL LID SYSTEM.

GENERATOR

NEW BUILDING MSB
MDB-1

PIT 1 BELOW

PIT 2. 2400 x 2400 x 900
DEEP INSITU PIT C/W INFILL
LID SYSTEM.

DB-T

DB-DS

PIT 3. 2400 x 2400 x 900
DEEP INSITU PIT C/W INFILL
LID SYSTEM.

EXISTING PADMOUNT
SUBSTATION TRANSFORMER.

METER BOARD

DB-ED

EXISTING MSB TO
BE REMOVED.

SITE PLAN

ON-GRADE CARPARK WORKS
SCALE 1:500

PROPOSED CABLE ROUTES.
REFER DRAWING E04.

ELECTRICAL DESIGN GROUP BRISBANE
PTY LTD
ACN 092 710 793
TRADING AS:
ELECTRICAL DESIGN GROUP

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PROJECT:
THE LION RICHLANDS - CARPARK UPGRADE

133 PINE ROAD, RICHLANDS

D	APPROVAL	02/04/2025
REV.	DESCRIPTION:	DATE:

DRAWING:
**ELECTRICAL SERVICES
LEGEND & SITE PLAN**

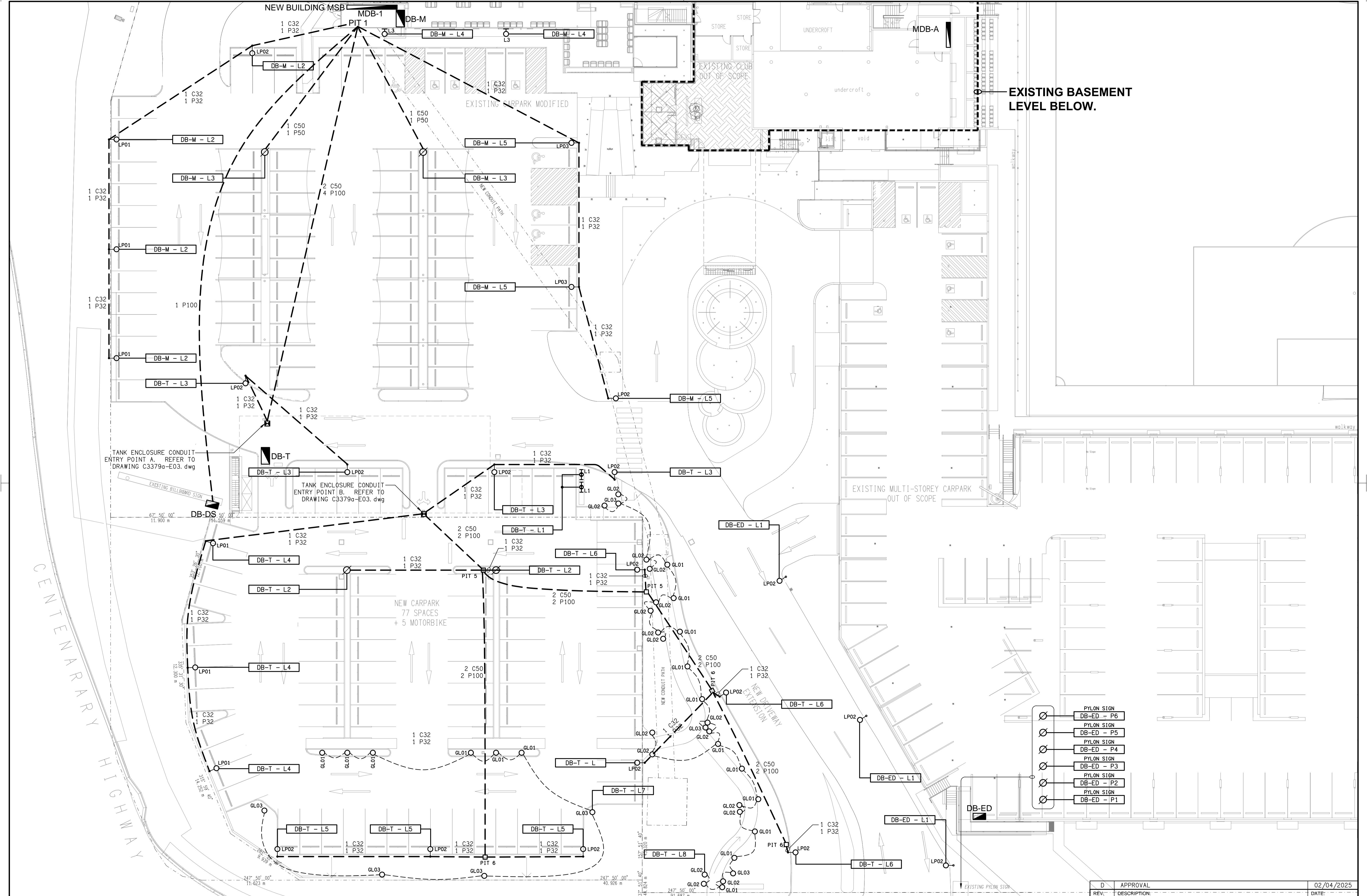
SCALE:
1:500

AT A1

PROJECT NO:
C3379a

DRAWING NO:
E01

REVISION:
D



EXISTING BASEMENT
LEVEL BELOW.

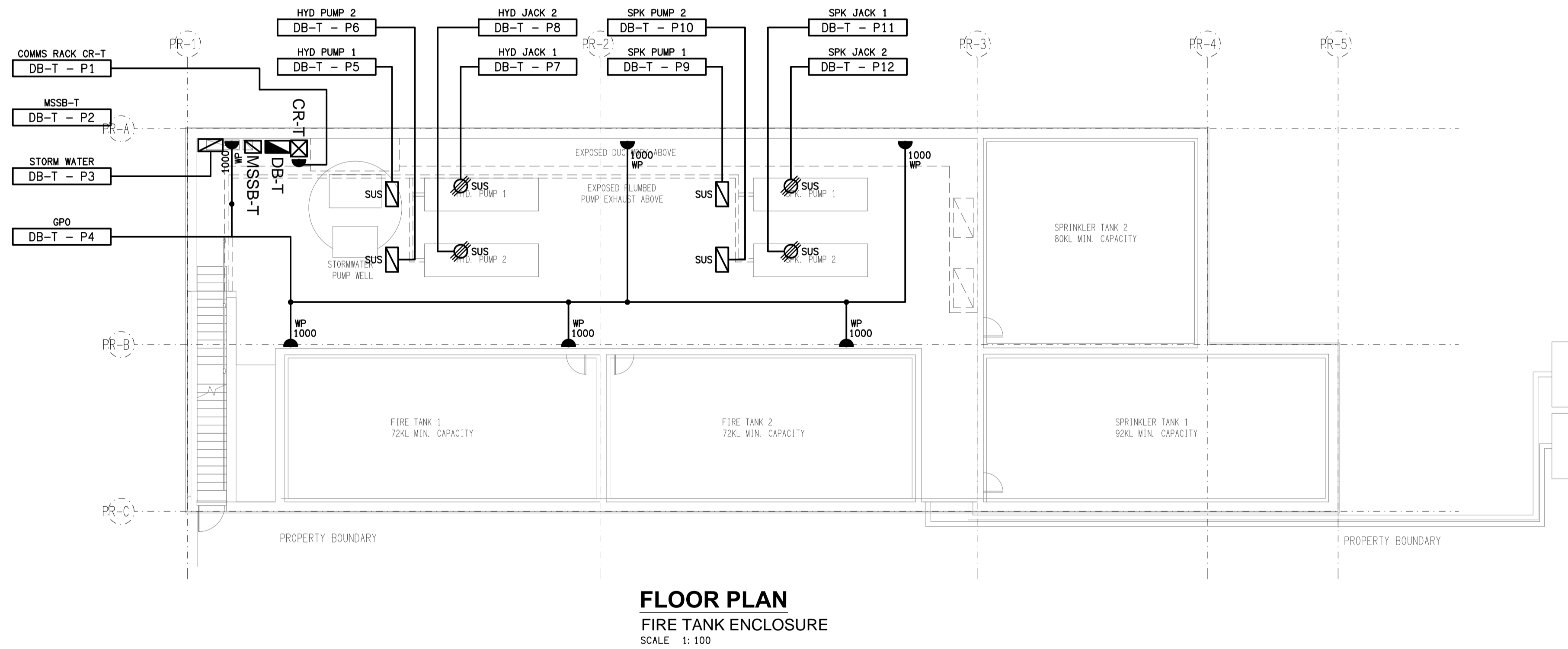
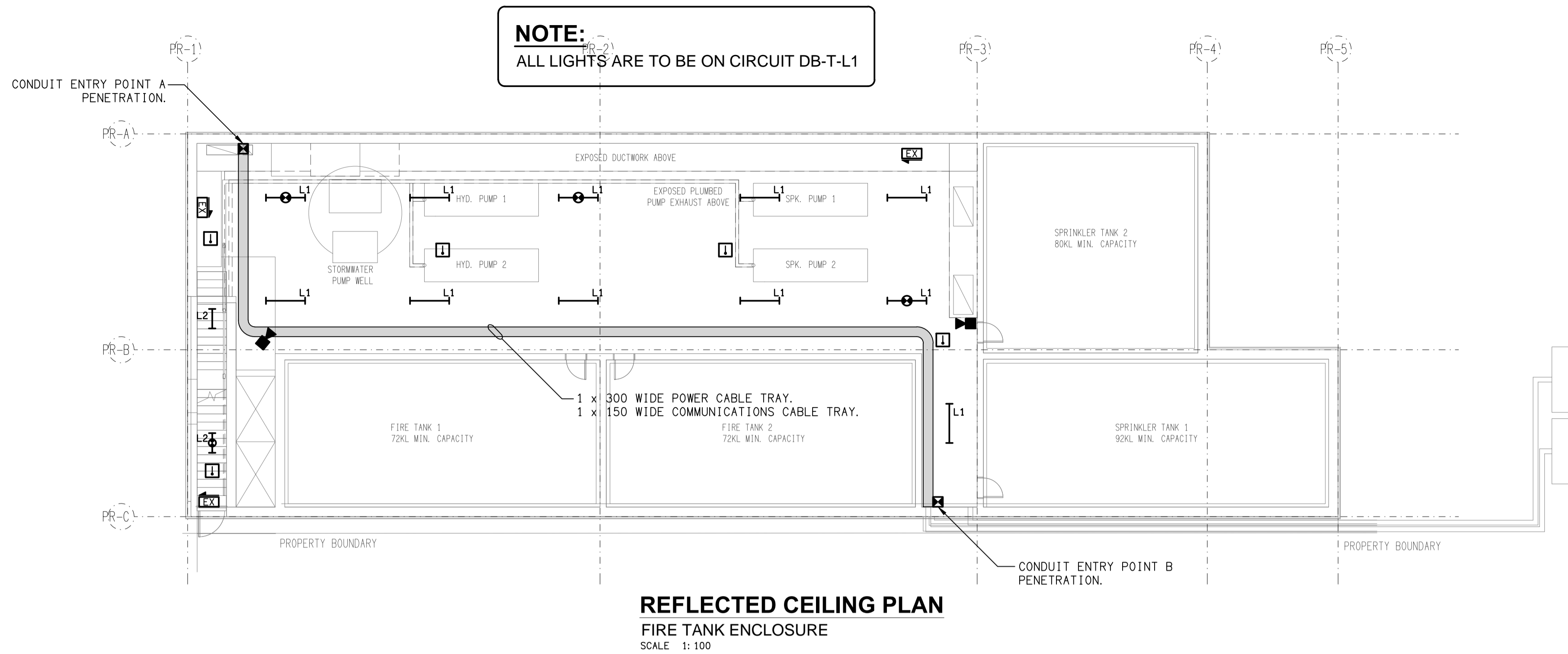
TANK ENCLOSURE CONDUIT
ENTRY POINT A. REFER TO
DRAWING C3379a-E03. dwg

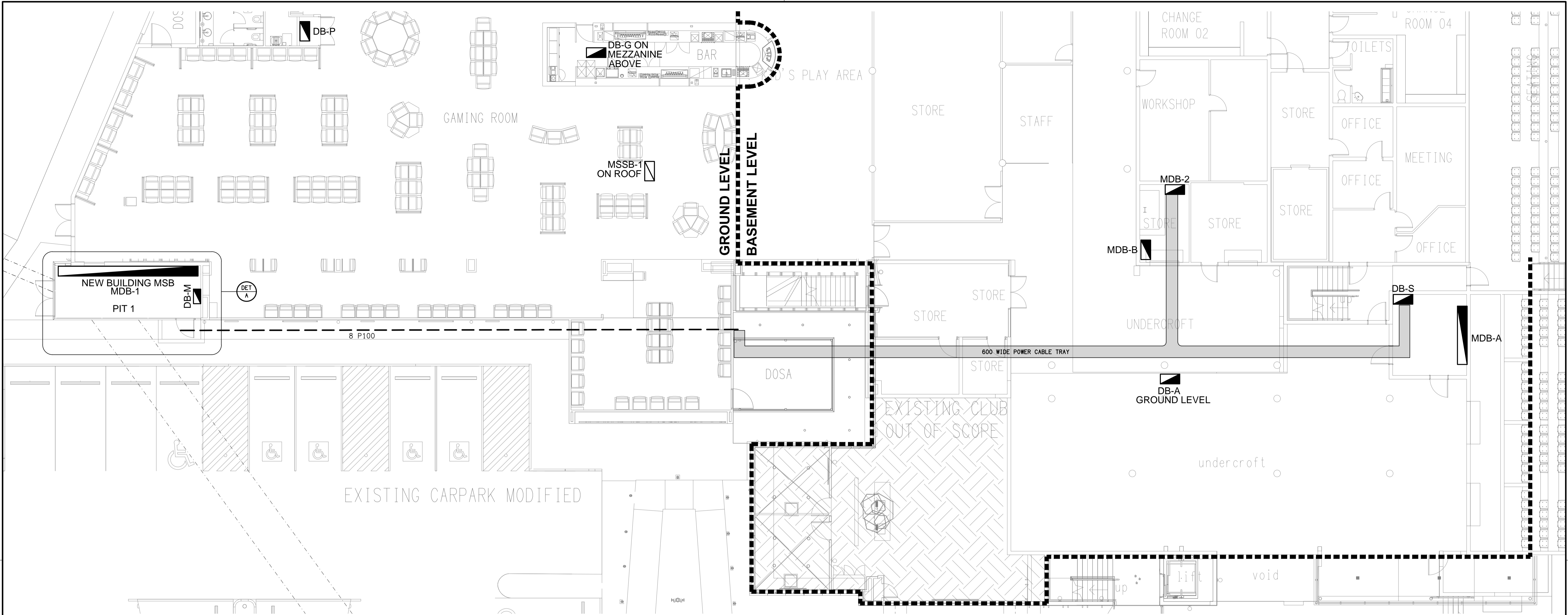
TANK ENCLOSURE CONDUIT
ENTRY POINT B. REFER TO
DRAWING C3379a-E03. dwg

EXISTING MULTI-STOREY CARPARK
OUT OF SCOPE

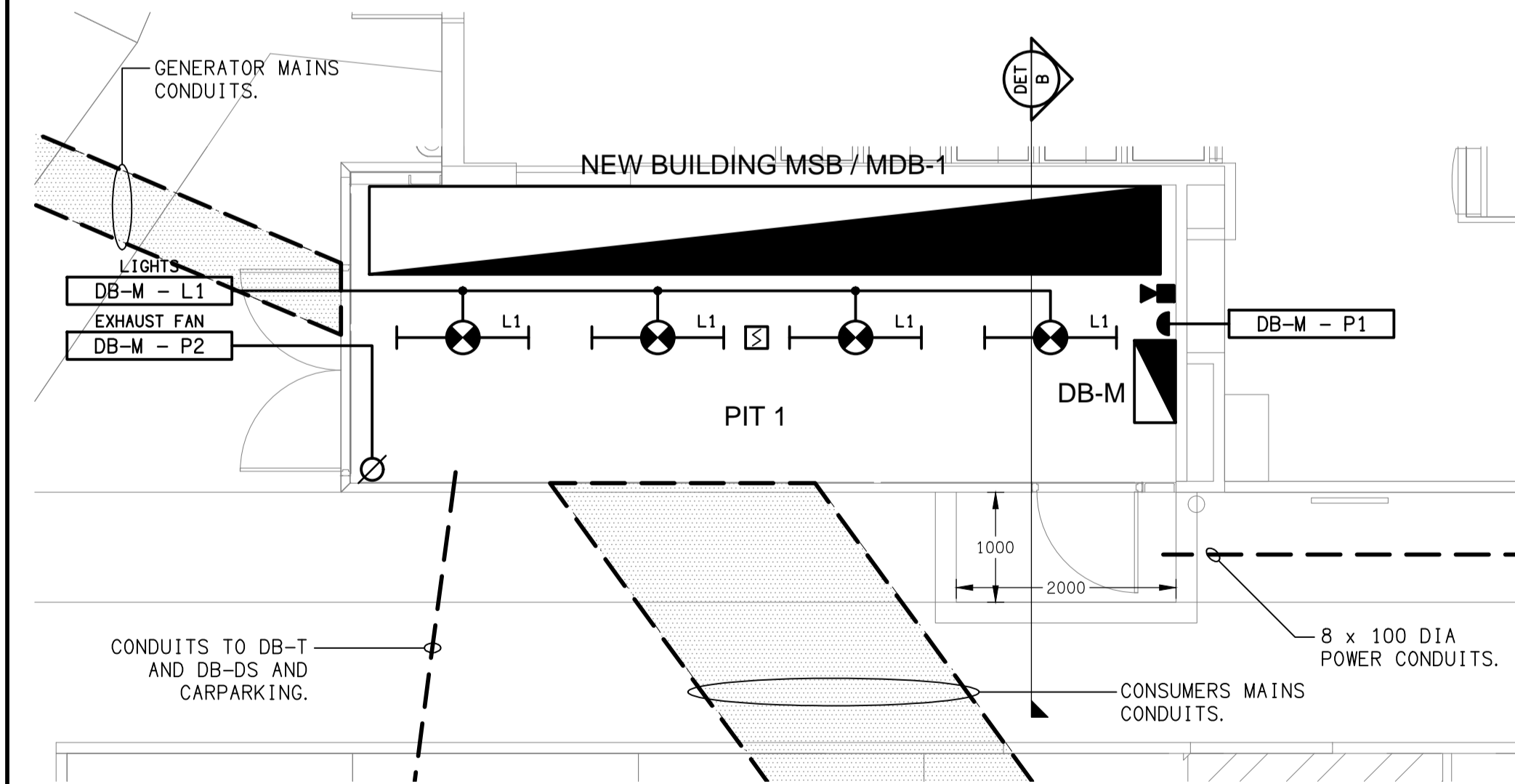
NEW CARPARK
77 SPACES
+ 5 MOTORBIKE

- PYLON SIGN
DB-ED - P6
- PYLON SIGN
DB-ED - P5
- PYLON SIGN
DB-ED - P4
- PYLON SIGN
DB-ED - P3
- PYLON SIGN
DB-ED - P2
- PYLON SIGN
DB-ED - P1

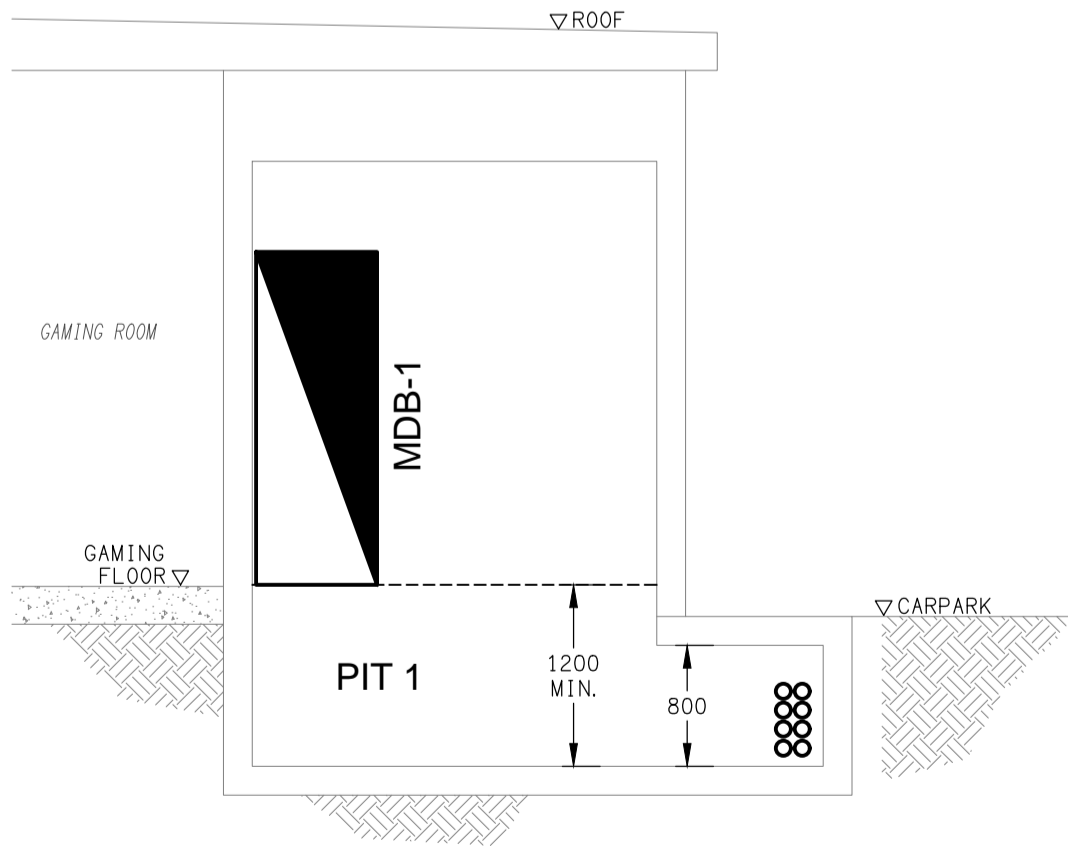




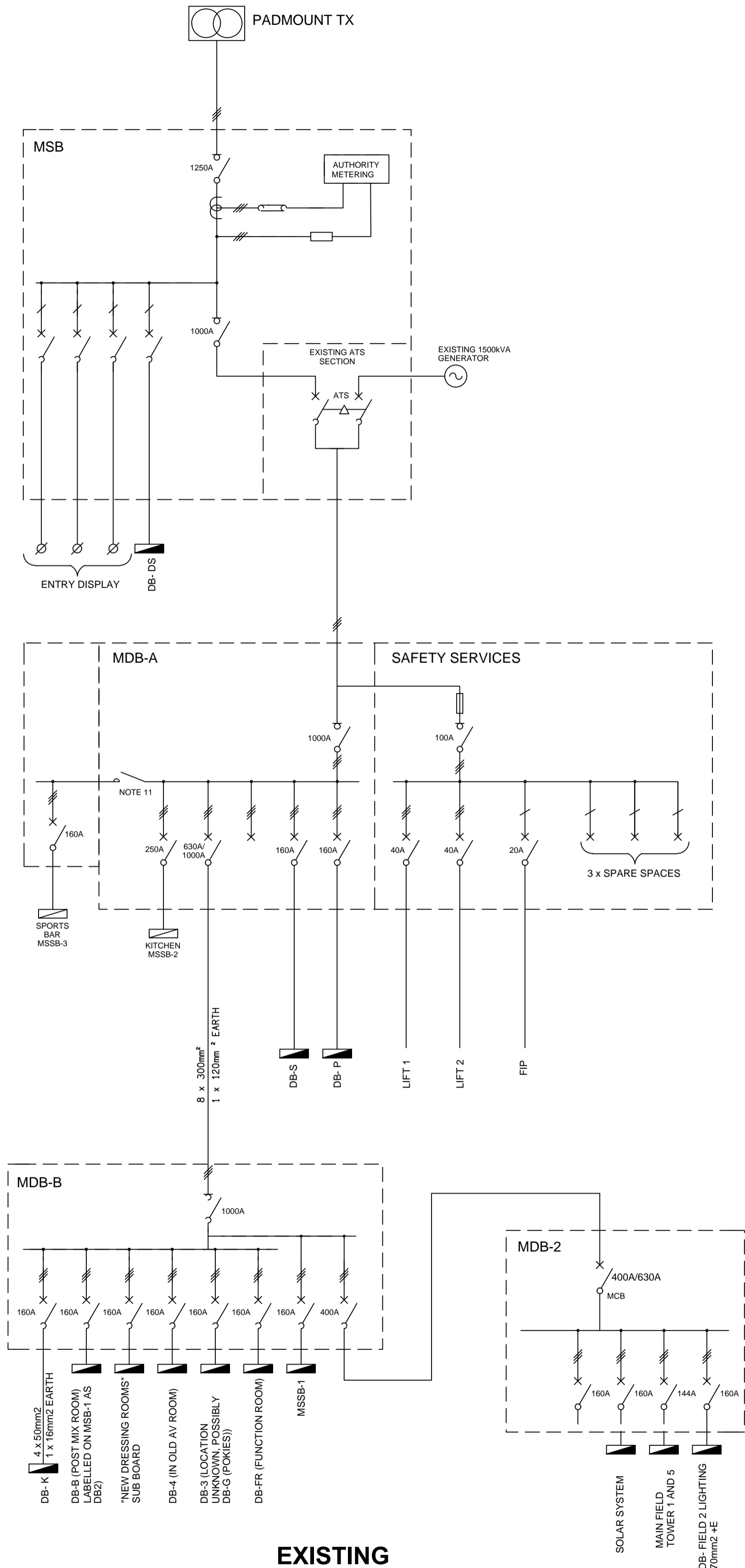
FLOOR PLAN
CABLE ROUTE LAYOUT
SCALE 1: 100



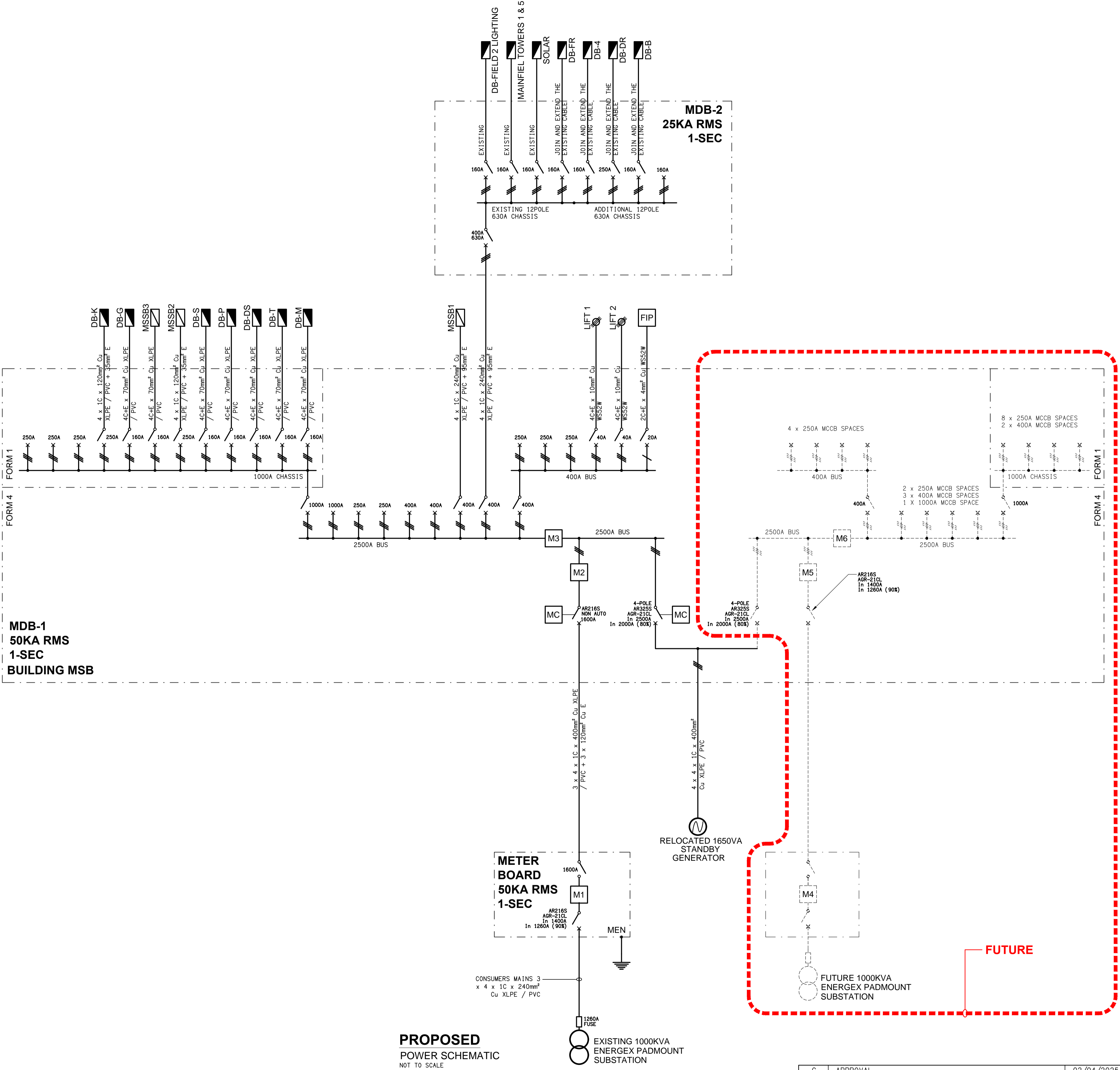
DETAIL A
MDB-1 ROOM PLAN VIEW
SCALE 1: 50



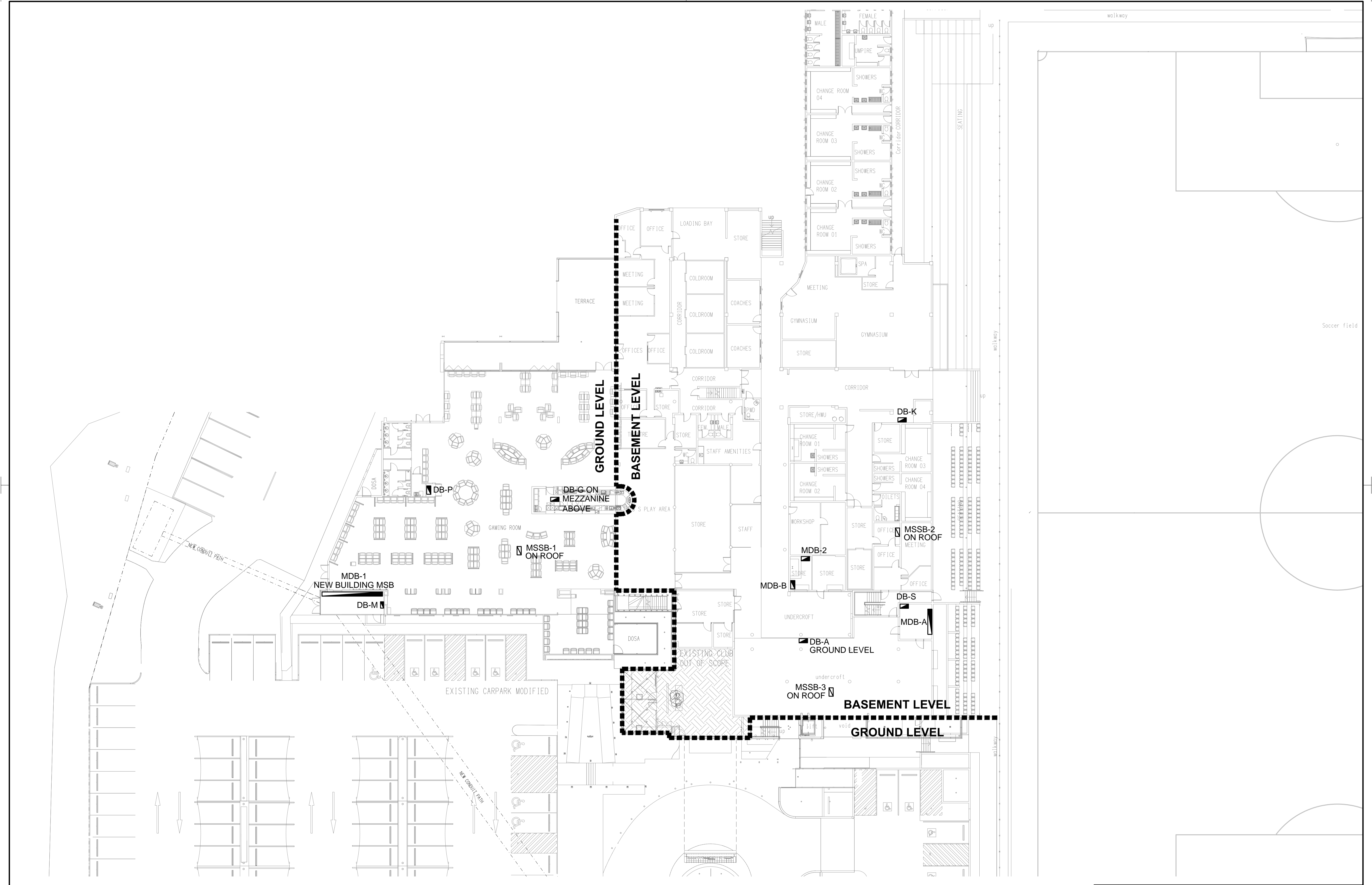
DETAIL B
MDB-1 ROOM SECTION VIEW
SCALE 1: 50



EXISTING
POWER SCHEMATIC
NOT TO SCALE



PROPOSED
POWER SCHEMATIC
NOT TO SCALE



ELECTRICAL DESIGN GROUP BRISBANE PTY LTD ACN 092 710 793	THE COPYRIGHT OF THIS DRAWING REMAINS THE PROPERTY OF THE ELECTRICAL DESIGN GROUP.	<div><div></div><div>ELECTRICAL DESIGN GROUP</div><div>ELECTRICAL BUILDING SERVICES CONSULTANTS</div><div>BRISBANE</div><div>GOLD COAST</div></div> <div>P.O.Box 15, Sherwood Q.4075 Phone: (07) 3278 4375 Email: brisbane@edg.net.au Web: www.edg.net.au</div>	PROJECT: THE LION RICHLANDS - CARPARK UPGRADE	DRAWING: ELECTRICAL SERVICES SWITCHBOARD LOCATIONS			
			133 PINE ROAD, RICHLANDS	SCALE: 1:200	PROJECT NO: C3379a	DRAWING NO: E06	REVISION: C
				AT A1			

NOTES

1. EXTENT OF WORKS
THE CARPARK UPGRADE ELECTRICAL WORKS INCLUDES UPGRADING THE ENERGEX PADMOUNT SUBSTATION, A NEW MAIN SWITCHBOARD, RELOCATION OF THE EXISTING GENERATOR, MODIFICATIONS TO THE EXISTING POWER DISTRIBUTION SYSTEM AND THE WORKS ASSOCIATED WITH THE CARPARKS.
THE WORKS IS TO INCLUDE THOUGH ARE NOT LIMITED TO THE FOLLOWING:
- SUPPLY AND INSTALLATION OF ALL COMPONENTS FORMING PART OF THE ELECTRICAL SERVICES
- INSPECTIONS.
- TESTING AND COMMISSIONING.
- MAINTENANCE.
- CABLING, CABLE SUPPORT SYSTEMS AND ACCESS.
- POWER DISTRIBUTION.
- SHOP DRAWINGS.
- AS CONSTRUCTED DOCUMENTS.
- ARRANGING WITH ENERGEX TO UPGRADE THE EXISTING PADMOUNT SUBSTATION FUSES TO 1,260 AMPS.
- RELOCATION OF THE EXISTING GENERATOR.
- NEW MAIN SWITCHBOARD / METER PANEL.
- UNDERGROUND CONSUMERS MAINS.
- UNDERGROUND GENERATOR MAINS.
- UNDERGROUND SUBMAINS.
- PIT AND CONDUITS.
- CIVIL, STRUCTURAL AND BUILDING WORKS ASSOCIATED WITH THE ELECTRICAL SERVICES INSTALLATION.
- VACUUM EXCAVATION.
- REMOVAL OF THE EXISTING ELECTRICAL SERVICES THAT BECOME REDUNDANT.
- NEGOTIATION AND COORDINATION WITH ENERGEX AND THE CLUBS ELECTRICITY RETAILER FOR THE UPGRADED SUPPLY AND METERING.
- TEMPORARY WORKS.
- SWITCHBOARDS.
- CIRCUITS AND OUTLETS.
- LIGHTING.
- FIRE ALARM SERVICES.
- COMMUNICATIONS SERVICES.
- ALL MINOR COMPONENTS AND INCIDENTAL WORKS NOT SPECIFICALLY REFERRED TO, HOWEVER NECESSARY TO COMPLETE THE ELECTRICAL SERVICES INSTALLATION SUCH THAT IT IS HANDED OVER COMPLETE, OPERATIONAL AND FIT FOR THE INTENDED USE.

AS PART OF THE TENDER PROVIDE A PROGRAM FOR EACH OPTION INCLUDING ANY INTERRUPTIONS TO THE POWER SUPPLY AND THE DURATION OF ANY SUCH INTERRUPTION.

PRIOR TO COMMENCING WORK CONSULT SITE MANAGEMENT FOR ANY HAZARDOUS MATERIAL AND OR ASBESTOS REGISTERS AS WELL AS UNDERTAKE A THOROUGH INSPECTION OF THE SITE TO IDENTIFY ANY POTENTIAL HAZARDOUS MATERIALS, ASBESTOS AND HEALTH OR SAFETY RISKS. ADVISE THE CONTRACTOR OF ANY POTENTIAL HAZARDOUS MATERIALS, ASBESTOS AND HEALTH OR SAFETY RISKS IF IDENTIFIED AND DO NOT COMMENCE WORK UNTIL AN APPROPRIATE MANAGEMENT PLAN HAS BEEN DEVELOPED AND AGREED TO BY ALL PARTIES.

IDENTIFY ALL EXISTING UNDERGROUND SERVICES WITHIN THE SCOPE OF THE WORKS PRIOR TO UNDERTAKING ANY EXCAVATION, SUPPLY ALL LABOUR, MATERIALS, EQUIPMENT, AND ALL OTHER ITEMS, WHETHER MENTIONED IN DETAIL OR NOT, REQUIRED FOR THE SATISFACTORY COMPLETION OF THE ELECTRICAL SERVICES INSTALLATION, LEAVING IN FULL WORKING ORDER TO THE SATISFACTION OF THE PROJECT MANAGER.

ACCEPT FULL RESPONSIBILITY FOR LIASING, ARRANGING AND CO-ORDINATION OF ALL WORKS THAT HAVE AN EFFECT ON OR WILL BE AFFECTED BY THE ELECTRICAL SERVICES.

REFER TO THE EQUIPMENT SCHEDULE FOR ADDITIONAL REQUIREMENTS.

2. WORKMANSHIP

ENSURE THAT THE ELECTRICAL WORK IS PERFORMED BY THE HOLDER OF A CURRENT ELECTRICAL SUB CONTRACTOR LICENSE AND THE SERVICES COVERED BY THE ACMA IS PERFORMED BY THE HOLDER OF THE APPROPRIATE CURRENT ACMA LICENSE. ENSURE THE INSTALLATION AND ALL COMPONENTS, FIXTURES, FITTINGS, OUTLETS AND CABLES ARE SUPPLIED AND INSTALLED TO A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS. ENSURE ALL MATERIALS AND COMPONENTS OF A SIMILAR TYPE ARE OF THE SAME MANUFACTURER AND INSTALLED IN A UNIFORM MANNER.

IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE INSTALLATION IS FIT FOR PURPOSE AND IS PROVIDED AS A COMPLETE WORKING INSTALLATION. IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL COMPONENTS, FITTINGS, FIXTURES, SYSTEMS, PROGRAMMING ETC IRRESPECTIVE OF THE LEVEL DETAILED IN THE DOCUMENTS SUCH THAT THE INSTALLATION IS PROVIDED AS A COMPLETE WORKING INSTALLATION.

CONCEAL ALL WIRING AND CONDUITS. EXPOSED CABLING OR CONDUITS ARE GENERALLY NOT ACCEPTABLE. IT IS NOTED THAT CHASING AND REINSTATEMENT WILL BE REQUIRED. ENSURE ALL COMPONENTS, EQUIPMENT AND MATERIALS SUPPLIED ARE NEW, UNUSED, DESIGNED AND SELECTED TO ENSURE SATISFACTORY OPERATION UNDER VARYING ATMOSPHERIC, CLIMATIC, HUMID TROPICAL CONDITIONS WITHOUT DISTORTION AND DETERIORATION IN ANY PART AFFECTING EFFICIENCY AND RELIABILITY OF THE SYSTEMS. DESIGN AND SELECT ALL EQUIPMENT TO PROVIDE THE NECESSARY SAFETY TO HUMAN LIFE AND PROPERTY DURING OPERATION AND MAINTENANCE WITH PARTICULAR ATTENTION GIVEN TO ELECTRICAL SAFETY AND SEGREGATION PRECAUTIONS.

CHECK THE FINISHED PAINTWORK AROUND THE AREA OF EACH INSTALLATION AND TOUCH UP ALL DAMAGED PARTS AND FINISHES AFTER THE INSTALLATION OF THE ELECTRICAL SERVICES.

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDER'S PROGRAM. ENSURE ALL FINAL LOCATIONS OF OUTLETS AND FITTINGS ARE CO-ORDINATED ONSITE WITH THE ARCHITECT AND ALL OTHER SERVICES, TO THE APPROVAL OF THE PROJECT MANAGER. ALLOW TO CO-ORDINATE THE FINAL LOCATION OF ALL EQUIPMENT, FITTINGS, & OUTLETS, SUCH THAT THEY ARE INSTALLED IN ACCORDANCE WITH THE AS3000 RESTRICTED ZONES, AND ARE NOT COVERED INAPPROPRIATELY.

ENSURE THAT ALL METAL SURFACES ARE SUITABLY PROTECTED AGAINST CORROSION, AND THAT ALL PLASTIC MATERIALS ARE UV STABILISED.

PROVIDE ALL MATERIALS AS NEW, AND OF THE HIGHEST CLASS AVAILABLE FOR THEIR RESPECTIVE TYPES. ENSURE ALL ASPECTS OF THE WORK ARE OF A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS.

3. STANDARDS

IRRESPECTIVE OF INFORMATION CONTAINED IN THE ELECTRICAL SERVICES DOCUMENTS OR IN INSTRUCTIONS, IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL ELECTRICAL SERVICES WORKS ARE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING. REFER ANY DISCREPANCIES BETWEEN THE REQUIREMENTS OF THE FOLLOWING AND/OR THE ELECTRICAL SERVICES DOCUMENTS AND INSTRUCTIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO THE PLACING OF ORDERS, FABRICATION OR INSTALLATION OF THE ITEMS/METHODS IN DISCREPANCY.
- NCC BUILDING CODE OF AUSTRALIA.
- ELECTRICITY ACT.
- ELECTRICAL SAFETY ACT.
- ENERGEX REQUIREMENTS.
- THE QUEENSLAND ELECTRICITY CONNECTION MANUAL V4 (QECM).
- NATIONAL METERING INSTALLATION REGULATIONS (NMIR).
- AS/NZS3000.
- AS3008.
- WORKPLACE HEALTH AND SAFETY ACT.
- TELECOMMUNICATIONS ACT.
- ACMA REQUIREMENTS.
- QUEENSLAND FIRE DEPARTMENT.
- AS1670.1 2025.

NOTES

4. AUTHORITIES

ENSURE ALL OF THE ELECTRICAL SERVICES COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AUTHORITIES HAVING JURISDICTION OVER THE SITE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
- ACMA.
- LOCAL COUNCIL.
- LOCAL SUPPLY AUTHORITY.
- STATE GOVERNMENT DEPARTMENT OF ENVIRONMENT AND HERITAGE.
- QLD GOVERNMENT, DIVISION OF WORKPLACE, HEALTH AND SAFETY.
- QLD FIRE DEPARTMENT.

5. POWER DISTRIBUTION

THE POWER DISTRIBUTION WORKS ARE TO INCLUDE THOUGH NOT BE LIMITED TO THE FOLLOWING:

- ALL SWITCHGEAR TO BE OF THE SAME MANUFACTURER FROM NHP/ TERASAKI OR SCHNEIDER.
- PROVIDE A NEW MSB METER PANEL ADJACENT THE EXISTING 1,000 KVA ENERGEX PADMOUNT SUBSTATION.
- RELOCATE THE EXISTING 1,650 KVA STANDBY GENERATOR AND PROVIDE NEW GENERATOR MAINS TO THE NEW MDB-1.
- PROVIDE A NEW MDB-1 WITH A BUMPLESS GENERATOR TRANSFER FACILITY. THE NEW MDB-1 IS TO HAVE FACILITY TO BE EXPANDED TO ACCOMMODATE A FUTURE SECOND ENERGEX SUPPLY FROM A FUTURE SECOND ENERGEX PADMOUNT SUBSTATION. PROVIDE NEW SUBMAINS FROM THE NEW MSB METER PANEL TO THE NEW MDB-2.
- OBTAIN ENERGEX'S APPROVAL OF THE BUMPLESS TRANSFER AND COMMISSION THE GENERATOR / TRANSFER ACCORDINGLY.
- EXISTING SOLAR TO BE ADVISED - UPGRADE THE DISTRIBUTION SECTION OF MDB-2 TO INCLUDE A SECOND 630 AMP 12 POLE CHASSIS. MOUNT THE SECOND CHASSIS TO THE TOP OF THE EXISTING CHASSIS AND REPLACE THE ESCUTCHEON ACCORDINGLY.
- DISCONNECT THE EXISTING BASEMENT MDB-2 FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING GAMING ROOM MEZZANINE DISTRIBUTION BOARD DB-G FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING BASEMENT DISTRIBUTION BOARD DB-K FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING DISTRIBUTION BOARD DB-FR FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE EXISTING SPARE 160 AMP MCCB IN MDB-2.
- DISCONNECT THE EXISTING DISTRIBUTION BOARD DB-4 FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE UPGRADED MDB-2.
- DISCONNECT THE EXISTING DRESSING ROOM DISTRIBUTION BOARD DB-DR FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE UPGRADED MDB-2.
- DISCONNECT THE EXISTING DRESSING ROOM DISTRIBUTION BOARD DB-B FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE UPGRADED MDB-2.
- DISCONNECT THE EXISTING ROOF MOUNTED GAMING MECHANICAL SERVICES SWITCHBOARD MSSB1 FROM THE EXISTING MDB-B AND RESUPPLY IT FROM THE NEW MDB-1.
- REMOVE THE EXISTING MDB-B AND ALL ASSOCIATED CABLING.
- DISCONNECT THE EXISTING GAMING ROOM MEZZANINE DISTRIBUTION BOARD DB-P FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING BASEMENT DISTRIBUTION BOARD DB-S FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING ROOF MOUNTED KITCHEN MECHANICAL SERVICES SWITCHBOARD MSSB2 FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING ROOF MOUNTED SPORTS BAR MECHANICAL SERVICES SWITCHBOARD MSSB3 FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING LIFT 1 FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING LIFT 2 FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING FIP FROM THE EXISTING MDB-A AND RESUPPLY IT FROM THE NEW MDB-1.
- DISCONNECT THE EXISTING CARPARK DIGITAL SIGN DISTRIBUTION BOARD DB-DS FROM THE EXISTING MSB AND RESUPPLY IT FROM THE NEW MDB-1 PROVIDE A NEW SUPPLY FROM THE NEW MDB-1 TO A NEW DISTRIBUTION BOARD DB-M IN THE MDB-1 SWITCHROOM.
- PROVIDE A NEW SUPPLY FROM THE NEW MDB-1 TO A NEW DISTRIBUTION BOARD DB-T IN THE NEW SUBTERRANEAN TANK ROOM.
- REMOVE THE EXISTING MDB-A AND ALL ASSOCIATED CABLING.
- REMOVE THE EXISTING MSB AND ALL ASSOCIATED CABLING.
- PROVIDE ALL NECESSARY CIRCUITS AND OUTLETS.

WITHIN ONE WEEK OF BEING AWARDED THE CONTRACT, UNDERTAKE AN INVESTIGATION ON SITE AND PROVIDE THE FOLLOWING INFORMATION:
- THE SOURCE AND RATING IN AMPS OF THE SUPPLY TO DB-A.
- THE DETAILS OF THE EXISTING MDB-2 MAIN SWITCH INCLUDING THE TRIP UNIT RANGE SETTINGS.
- THE RATING IN AMPS OF THE EXISTING MDB-2 DISTRIBUTION CHASSIS.
- THE FAULT CURRENT RATING OF THE EXISTING MDB-2.

DB-A TO BE ADVISED

DB-ED TO BE ADVISED

THE SUPPLY TO THE CLUB MUST BE MAINTAINED AT ALL TIMES FROM 9.00AM UNTIL 4.30AM. ANY INTERRUPTION TO ANY POWER SUPPLY MUST BE LIMITED BETWEEN 4.30AM AND 9.00AM WITH THE CLUB NOTIFIED IN WRITING 2 WEEK PRIOR. THE ENERGEX COSTS ASSOCIATED WITH MEETING THIS TIME FRAME CAN BE PASSED ONTO THE CLUB FOR PAYMENT BY THE CLUB. ENSURE ALL THREE PHASE CIRCUITS ARE PROVIDED WITH CORRECT PHASE ROTATION.

PRIOR TO THE COMMENCEMENT OF DEMOLITION / EXCAVATION DB-DS MUST BE PROVIDED WITH AN ALTERNATIVE SUPPLY AS THE EXISTING UNDERGROUND SUBMAIN FROM THE EXISTING SITE MSB RUNS THROUGH THE LOCATION OF THE PROPOSED SUBTERRANEAN TANK ROOM. ENSURE ALL OUTLETS AND ISOLATORS ARE POSITIONED SUCH THAT THEY ARE NOT COVERED BY THE EQUIPMENT.

NOTES

6. SWITCHBOARDS

PROVIDE THE NEW SITE MSB / METER PANEL AS / WITH:
- SHOP DRAWINGS FOR APPROVAL.
- PLINTH MOUNTED.
- 316 STAINLESS STEEL.
- LIGHT GREY ENCLOSURE.
- WHITE ESCUTCHEONS WITH LIFT OFF HINGES AND 1/4 TURN LATCHES TO SECURE THE ESCUTCHEON THAT REMAIN PART OF THE ESCUTCHEON.
- DOORS ON ALL CUBICLES.
- IP66.
- BOTTOM ENTRY ONLY. THE TOP OF THE SWITCHBOARD IS TO BE WELDED SEALED WITHOUT ANY PENETRATIONS.
- SUN / RAIN HOOD.
- DESIGN THE SWITCHBOARD TO OPERATE IN 40 DEG AMBIENT IN DIRECT SUMMER SUNLIGHT.
- ENERGEX PADLOCK ON THE METER CUBICAL.
- TWO ENERGEX PADLOCK KEYS AND TWO 92268 KEYS.
- FORM 2B.
- ENSURE ALL CABLE CONNECTIONS CAN BE THERMALLY SCANNED WITHOUT ISOLATING THE POWER.
- EACH CUBICAL CONTAINING SWITCHGEAR IS TO CONTAIN AN AUTOMATIC TEMPERATURE CONTROLLED ANTI CONDENSATION HEATER.
- RETAIL METERING.
- 600 WIDE X 900 HIGH EMPTY COMPARTMENT WITH A REMOVABLE WHITE MOUNTING PAN FOR USE BY THE SOLAR INSTALLER.
- 600 WIDE X 900 HIGH EMPTY COMPARTMENT WITH A REMOVABLE WHITE MOUNTING PAN FOR USE BY THE GENERATOR CONTROLLER INSTALLER.
- THE MAINS SUPPLY CIRCUIT BREAKER AND EACH OF THE GENERATOR SUPPLY CIRCUIT BREAKERS ARE TO BE PROVIDED WITH AUXILIARY INPUTS TO ALLOW CONTROL BY THE GENERATOR CONTROL SYSTEM AND THE SOLAR PROTECTION RELAY. THE CIRCUIT BREAKERS ARE TO BE CONTROLLED VIA INTEGRATED MOTOR CONTROL UNITS.
- ALL CIRCUIT BREAKER MOTOR CONTROL UNITS ARE TO BE 24 VOLT.
- PROVIDE THE MSB WITH A UPS AND POWER SUPPLY TO PROVIDE 200 WATTS AT 24 VOLT DC FOR SIXTY SECONDS TO POWER THE GENERATOR CONTROLLERS.
- REFER TO THE GENERATOR CONTROL SECTION FOR THE CONTROL REQUIREMENTS.

PROVIDE THE NEW BUILDING MSB / MDB-1 AS / WITH:
- SHOP DRAWINGS FOR APPROVAL. THE SHOP DRAWINGS ARE TO INCLUDE THE FUTURE EXPANSION OF THE MDB-1 AS DETAILED ON THE SCHEMATIC.
- PLINTH MOUNTED.
- MILD STEEL.
- LIGHT GREY ENCLOSURE.
- WHITE ESCUTCHEONS WITH LIFT OFF HINGES AND 1/4 TURN LATCHES TO SECURE THE ESCUTCHEON THAT REMAIN PART OF THE ESCUTCHEON.
- DOORS ARE NOT REQUIRED.
- IP42.
- BOTTOM ENTRY ONLY. THE TOP OF THE SWITCHBOARD IS TO BE WELDED SEALED WITHOUT ANY PENETRATIONS.
- FORM AS PER THE SCHEMATIC
- ENSURE ALL CABLE CONNECTIONS CAN BE THERMALLY SCANNED WITHOUT ISOLATING THE POWER.
- EACH CUBICAL CONTAINING SWITCHGEAR IS TO CONTAIN AN AUTOMATIC TEMPERATURE CONTROLLED ANTI CONDENSATION HEATER.
- THE MAINS SUPPLY CIRCUIT BREAKER AND THE GENERATOR SUPPLY CIRCUIT BREAKERS ARE TO BE PROVIDED WITH AUXILIARY INPUTS TO ALLOW CONTROL BY THE GENERATOR CONTROL SYSTEM AND THE SOLAR PROTECTION RELAY. THE CIRCUIT BREAKERS ARE TO BE CONTROLLED VIA INTEGRATED MOTOR CONTROL UNITS.
- ALL CIRCUIT BREAKER MOTOR CONTROL UNITS ARE TO BE 24 VOLT.
- PROVIDE THE MDB-1 WITH A UPS AND POWER SUPPLY TO PROVIDE 200 WATTS AT 24 VOLT DC FOR SIXTY SECONDS TO POWER THE GENERATOR CONTROLLERS.
- REFER TO THE GENERATOR CONTROL SECTION FOR THE CONTROL REQUIREMENTS.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.

PROVIDE DISTRIBUTION BOARDS DB-M AND DB-T AS FOLLOWS:

- WALL MOUNTED.
- IP44 FORM 2B1.
- LIGHT GREY ENCLOSURE WHITE ESCUTCHEON.
- 3 POINT LOCKABLE HANDLES ON ALL DOORS WITH 92268 KEYING.
- LIFT OFF HINGES ON ALL DOORS AND ESCUTCHEONS.
- 1/4 TURN LATCHES AND D HANDLES ON ALL ESCUTCHEONS.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.

7. CABLE ACCESS

PROVIDE ALL CABLE ACCESS NECESSARY TO COMPLETE THE ELECTRICAL INSTALLATION INCLUDING THOUGH NOT LIMITED TO:
- UNDERGROUND PITS AND CONDUITS.
- CABLE TRAYS AND CABLE LADDERS.
- MODIFY THE EXISTING ENERGEX PADMOUNT SUBSTATION CONCRETE AFTER OBTAINING ENERGEX'S APPROVAL TO ALLOW THE NEW CONSUMERS MAIN TO BE INSTALLED. PROVIDE ALL NECESSARY ENERGEX APPROVED OBSERVERS / SUPERVISION. REINSTATE THE CONCRETE TO ENERGEX'S APPROVAL.
- BUILDING PENETRATIONS INCLUDING MAINTAINING THE MDB-1 ROOM 2 HOUR FIRE RATING.

THE BUILDING WORKS ARE TO INCLUDE THE MDB-1 PIT1 WHICH IS TO BE CONSTRUCTED INSITU WITH THE FOLLOWING FEATURES.
- THE SAME LENGTH AND WIDTH AS THE MDB-1 ROOM.
- GALVANIZED STEEL STRUCTURE MECHANICALLY FIXED TO THE PIT WALLS TO SUPPORT THE FRONT OF THE NEW MAIN SWITCHBOARD AND THE PIT LIDS.
- 25MM THICK MARINE PLY PIT LID C/W NON SLIP FINISH IN SECTIONS NO MORE THAN 25KG PER SECTION. DO NOT MECHANICALLY FIX THE SECTIONS OF LID IN PLACE. PROVIDE EACH SECTION WITH A 30MM DIA HOLE TO ALLOW THE SECTION TO BE LIFTED.
- AN AUTOMATIC SUMP PUMP THAT DRAINS TO STORM WATER.
- PROVIDE FIBREGLASS SUPPORTS ON THE PIT FLOOR TO SUPPORT THE CABLING 50MM OFF THE PIT FLOOR.
- SEAL ALL CONDUITS TO THE PIT TO PREVENT EARTH AND MOISTURE FROM ENTERING THE PIT AROUND THE OUTSIDE OF THE CONDUITS.

PROVIDE ALL CONDUITS ENTERING A PIT WITH BELL MOUTHS OR CUT THE CONDUITS OFF FLUSH WITH THE PIT WALL AND FILE THE CONDUIT EDGES SUCH THAT THEY ARE ROUNDED WITH NO SHARP EDGES OR BURRS.

PROVIDE NEW UNDERGROUND CONSUMERS MAINS CONDUITS FROM THE LV CUBICAL IN THE ENERGEX PADMOUNT TO THE NEW MSB PIT. COORDINATE THE CONDUITS WITH ENERGEX. PROVIDE NEW UNDERGROUND GENERATOR MAINS AND CONTROLS CONDUITS FROM EACH GENERATOR TO THE NEW MSB PIT. COORDINATE THE GENERATOR TURN UP POSITIONS WITH THE GENERATOR SUPPLIER. PROVIDE NEW UNDERGROUND SUB MAINS CONDUITS FROM THE NEW MSB PIT TO THE EXISTING MDB-N. IN ADDITION TO THE POWER CONDUITS PROVIDED 2 X 50 DIA COMMUNICATIONS CONDUITS C/W DRAW WIRES FROM THE NEW MSB PIT TO THE EXISTING MDB-N.

PROVIDE POWER AND COMMUNICATIONS CABLE TRAYS WITHIN THE SUBTERRANEAN TANK ROOM. PROVIDE NEW AND OR MODIFY THE EXISTING BASEMENT CABLE LADDERS TO ACCOMMODATE THE NEW SUBMAINS. COORDINATE ALL CABLE TRAYS / LADDERS WITH THE STRUCTURE AND OTHER SERVICES. SUBMIT A PLAN OF THE PROPOSED CABLE TRY / LADDER ROUTES FOR APPROVAL PRIOR TO CONSTRUCTION.

NOTES

8. GENERATOR

RELOCATE THE EXISTING 1,650 KVA GENERATOR INCLUDING THE CONSTRUCTION OF A NEW REINFORCED CONCRETE PLINTH.

UPGRADE THE GENERATOR CONTROL SYSTEM WITH AN ENERGEX APPROVED BUMPLESS TRANSFER SYNCHRONISING CONTROL SYSTEM VIA THE MDB-1 MAINS SUPPLY AND GENERATOR MAINS SUPPLY CIRCUIT BREAKERS.

THE CIRCUIT BREAKERS ARE TO BE CONTROLLED VIA INTEGRATED MOTOR CONTROL UNITS.

UPGRADE THE GENERATOR CONTROL SYSTEM TO A DEEPSA ELECTRONICS DES8610 MK11 CONTROL MODULE INTERFACED TO THE GENERATOR TO CONTROL AND MONITOR THE GENERATOR SYSTEMS. PROVIDE MDB-1 WITH A DEEP SEA ELECTRONICS DES8610 MK11 CONTROL MODULE INTERFACED TO THE GENERATOR CONTROLLER TO PROVIDE A MIMIC DISPLAY OF THE GENERATOR CONTROLLER. THE MDB-1 CONTROLLER IS TO BE PROVIDED WITH A KEY ISOLATION FACILITY TO DISABLE THE INTERFACE.

CONFIGURE THE GENERATOR CONTROL SYSTEM AND MDB-1 CHANGE OVER FACILITY TO THE FOLLOWING OPERATION:

UPON THE SITE DEMAND REACHING 1200 AMPS:

A. UPON THE SITE DEMAND REACHING 1200 AMPS, THE GENERATOR CONTROL SYSTEM IS TO COMMENCE A 15 SECOND COUNTDOWN.

B. IF THE SITE DEMAND HAS NOT BEEN DROPPED BELOW 1200 AMPS THE GENERATOR IS TO AUTOMATICALLY START AND COMMENCE THE AUTOMATIC MAINS SYNCHRONISING PROCESS.

C. THIRTY SECONDS AFTER STARTING THE GENERATOR IS TO BE SYNCHRONISED WITH THE MAINS SUPPLY AND THE SITES LOAD TRANSFERRED TO THE GENERATOR AND THE ENERGEX SUPPLY DISCONNECTED.

D. ONCE THE SITE DEMAND HAS DROPPED AND REMAINED BELOW 1000 AMPS FOR 30 MINUTES AND THE MAINS SUPPLY IS AVAILABLE THE GENERATOR IS TO BE SYNCHRONISED WITH THE MAINS SUPPLY AND THE SITES LOAD TRANSFERRED TO THE ENERGEX SUPPLY AND THE GENERATOR DISCONNECTED. THE GENERATOR IS TO CONTINUE RUNNING FOR A FURTHER 10 MINUTES BEFORE AUTOMATICALLY SHUTTING DOWN.

IF THE GENERATOR IS NOT RUNNING AND THE MAINS FAIL THE GENERATOR CONTROL SYSTEM IS TO OPERATE AS FOLLOWS:

A. UPON MAINS FAILURE, THE GENERATOR CONTROL SYSTEM IS TO COMMENCE A 15 SECOND COUNTDOWN.

B. ONCE THE SUPPLY POWER HAS NOT BEEN AVAILABLE FOR 15 SECONDS THE MAINS SUPPLY IS TO BE ISOLATED AND THE GENERATOR IS TO AUTOMATICALLY START. AFTER RUNNING FOR 15 SECONDS THE LOAD IS TO BE CONNECTED TO THE GENERATOR.

C. ONCE THE MAINS POWER HAS RETURNED UNINTERRUPTED FOR 5 MINUTES AND THE SITES DEMAND HAS REMAINED BELOW 1200 AMPS FOR 30 MINUTES THE GENERATOR IS TO BE SYNCHRONISED WITH THE MAINS SUPPLY AND THE SITES LOAD TRANSFERRED TO THE ENERGEX SUPPLY AND THE GENERATOR DISCONNECTED. THE GENERATOR IS TO CONTINUE RUNNING FOR A FURTHER 10 MINUTES BEFORE AUTOMATICALLY SHUTTING DOWN. SHOULD THE MAIN SUPPLY STATUS CHANGE DURING ANY OF THE TIMED DELAYS, THE TIMED DELAY IS TO RECOMMENCE. IF THE MAINS SUPPLY RETURNS DURING THE INITIAL 15 SECOND TIMED DELAY (STEP A) THE GENERATOR IS TO START AND AUTOMATICALLY STEP INTO (STEP C) RUN ON BEFORE AUTOMATICALLY SHUTTING DOWN. IF DURING THIS PERIOD THE SUPPLY AUTHORITY SUPPLY FAILS THE INITIAL (STEP A) 15 SECOND COUNTDOWN IS TO RECOMMENCE.

PROVIDE FACILITY TO PROVIDE THE SITES BUILDING MANAGEMENT SYSTEM WITH THE FOLLOWING SEPARATE ALARMS FROM EACH GENERATOR

- GENERATOR OPERATION STATUS.
- LOW BATTERY VOLTAGE.
- CONTROL IS NOT IN AUTO MODE.
- LOW FUEL LEVEL IN THE INTEGRAL GENERATOR SET FUEL TANK.
- EXCESS FUEL IN THE GENERATOR DRIP TRAY.
- COMMON ENGINE FAULT. INCLUDING:
- LOW OIL PRESSURE.
- HIGH WATER TEMPERATURE.
- OVER SPEED.

9. BUILDING WORKS

THE FOLLOWING WILL BE PROVIDED AS PART OF THE BUILDING WORKS:

- GENERATOR SUPPORT SLAB
- MSB METER PANEL SUPPORT SLAB.
- THE PIT 1 SUPPORT SYSTEM AND LID SYSTEM.
- THE GENERATOR SLAB.
- REINSTATEMENT OF ALL EXCAVATIONS.

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NOTES

10. LIGHTING

THE LIGHTING COMPONENT OF THE ELECTRICAL SERVICES SUB-CONTRACT INCLUDES ALL OF THE INTERNAL AND EXTERNAL LIGHT FITTINGS, LAMPS AND ACCESSORIES. PROVIDE ALL NECESSARY ACCESSORIES TO FACILITATE THE COMPLETE LIGHTING INSTALLATION. THE LIGHTING COMPONENT OF THE ELECTRICAL SERVICES SUB-CONTRACT INCLUDES THOUGH IT IS NOT LIMITED TO THE FOLLOWING EXTENT OF WORK:

- INTERNAL AND EXTERNAL LIGHT FITTINGS.
- EMERGENCY AND EXIT LIGHTING.
- EARTHING OF THE LIGHTING INSTALLATION.
- LIGHTING CONTROL.
- LIGHTING SUBCIRCUITS.
- TESTING AND COMMISSIONING.
- CARPARK LIGHTING POLES AND FOOTINGS.
- CIRCUIT CONNECTION TO THE SHADE STRUCTURE LIGHTING PROVIDED AS PART OF THE SHADE STRUCTURES.

ALL LIGHT SOURCES ARE TO BE SOLID STATE WITH AN AVERAGE LIFE OF 50,000 HOURS AND A MANUFACTURERS WARRANTY OF 5 YEARS

PROVIDE DM-M AND DB-T A SINGLE POINT EMERGENCY LIGHTING SYSTEM THAT COMPLIES WITH THE LATEST ISSUE OF ALL PARTS AS2293 AND THE RELEVANT PARTS OF THE NCC BCA. INSTALL EMERGENCY LIGHT FITTINGS NOMINATED AS MAINTAINED WITH THE LAMP PERMANENTLY ON SUPPLIED VIA AN UNSWITCHED ACTIVE MAINS SUPPLY WHEN THE MAINS SUPPLY IS AVAILABLE. WHEN THE MAINS SUPPLY IS NOT AVAILABLE, THE LAMP IS TO REMAIN ON SUPPLIED BY THE EMERGENCY PACK. SINGLE LAMP MAINTAINED EMERGENCY LIGHTS ARE NOT SWITCHED WITH THE LOCAL GENERAL AREA LIGHTING. (THE LAMP IS ALWAYS ON.)

INSTALL EMERGENCY LIGHT FITTINGS NOMINATED AS NON-MAINTAINED AS FOLLOWS:

- IF THE FITTING IS NOT BEING SWITCHED, THE LAMP IS TO REMAIN OFF WHEN THE MAINS SUPPLY IS AVAILABLE. WHEN THE MAINS SUPPLY IS NOT AVAILABLE THE LAMP IS TO BE SWITCHED ON SUPPLIED BY THE EMERGENCY PACK. UNSWITCHED SINGLE LAMP NON-MAINTAINED EMERGENCY LIGHTS ARE NOT SWITCHED WITH THE LOCAL GENERAL AREA LIGHTING. (THE LAMP IS ON ONLY WHEN THE MAINS SUPPLY IS NOT AVAILABLE.)
- IF THE FITTING IS BEING SWITCHED, THE LAMP IS TO BE SUPPLIED AND CONTROLLED WITH THE LOCAL GENERAL AREA LIGHTING WHEN THE MAINS SUPPLY IS AVAILABLE. WHEN THE MAINS SUPPLY IS NOT AVAILABLE THE LAMP IS TO BE SWITCHED ON, SUPPLIED BY THE EMERGENCY PACK. (THE LAMP IS ON WHEN TURNED ON WITH THE LOCAL GENERAL LIGHTING OR THE MAIN SUPPLY IS NOT AVAILABLE.)

11.0 LIGHT POLES

PROVIDE POLES WITH A TAMPER RESISTANT ACCESS PANEL WITHIN THE POLE BASE AND BASE PLATE THAT INCORPORATE A MINIMUM OF FOUR HOLD DOWN BOLTS. PROVIDE POLES AND INSTITU CONCRETE FOOTINGS DESIGNED SPECIFICALLY TO SUIT THE LOCAL CONDITIONS AND BE ABLE TO WITHSTAND WIND GUSTS OF 150KM/H. THE DESIGN OF THE POLE AND THE FOOTING IS TO BE UNDERTAKEN BY A RESISTED STRUCTURAL ENGINEER. PROVIDE A CERTIFICATE FROM THE STRUCTURAL ENGINEER INDICATING THE POLES AND FOOTINGS MEET THE SPECIFIED DESIGN CRITERIA. PROVIDE DETAILED DRAWINGS OF ALL POLES AND FOOTINGS FOR APPROVAL. PROVIDE A FUSED CONNECTION WITHIN EACH POLE LOCATED BEHIND THE POLE BASE ACCESS PANEL. CONNECT THE POLE TO THE ELECTRICAL EARTH VIA A LUG FIXED TO A STUD WELDED TO THE POLE LOCATED WITHIN THE POLE LOCATED BEHIND THE POLE BASE ACCESS PANEL. TRIM THE HOLD DOWN BOLTS SUCH THAT THEY DO NOT PROTRUDE MORE THAN 15MM ABOVE THE NUT. TREAT THE TRIMMED HOLD DOWN BOLT AGAINST CORROSION AND ENSURE IT DOES NOT CONTAIN SHARP EDGES THAT REPRESENT A HAZARD. ENSURE THE BASE PLATE IS BETWEEN 50 AND 100MM ABOVE THE FINISHED LANDSCAPE LEVEL. PROVIDE A NEAT SMOOTH FINISHED CONCRETE GROUT FILL UNDER THE BASE PLATE ENSURING ANY SPLATTER IS IMMEDIATELY WASHED OFF THE BASE PLATE AND POLE. EXTEND THE CONDUIT INTO THE POLE 50MM ABOVE THE BASE PLATE.

PROVIDE POLES THAT COMPLY WITH AS/NZS 1170.0 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES - IMPORTANCE LEVEL 1 WITH A DESIGN WORKING LIFE OF 50 YEARS.

DESIGN THE POLES TO A WIND LOADING AS PER AS/NZS 1170.0 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES. THE FRACTION OF CRITICAL DAMPING IS TO BE TAKEN AS 0.05 (ULTIMATE) AND 0.01 (SERVICEABILITY) FOR POLES WITH MORE THAN TWO- (2) OVERLAPS AND 0.02 (ULTIMATE) AND 0.005 (SERVICEABILITY) FOR ALL OTHERS. THE NATURAL FREQUENCY OF THE POLE IS TO BE CALCULATED CONSIDERING VARYING DIAMETERS AND THICKNESS OVER THE HEIGHT OF THE POLE AND USING A 1.1 SAFETY FACTOR FOR THE MASS AT THE TOP OF THE POLE. ENSURE POLE DEFLECTION AT SERVICEABILITY WIND SPEEDS HAVE A DEFLECTION LESS THAN 6.7%.

ENSURE ALL WELDS ARE BY A CONTINUOUS AUTOMATIC GAS SHIELDED ELECTRIC ARC PROCESS COMPLYING WITH THE RELEVANT PARTS OF AS/NZS 1554 STRUCTURAL STEEL WELDING. ENSURE THE LONGITUDINAL SEAM WELDS ON POLE SECTIONS CONFORMS TO GP STANDARDS WHILE BASEPLATE AND SPIGOT WELDS MUST CONFORM TO SP STANDARDS AS MENTIONED IN AS/NZS 1554. WELD SIZES ARE TO BE VERIFIED BY A QUALIFIED STRUCTURAL ENGINEER AND SPECIFIED IN THE ENGINEERING REPORT AND ON WORKSHOP DRAWINGS.

PROVIDE ALL POLES WITH A GALVANISED FOUNDATION BOLT ASSEMBLY COMPLETE WITH POSITIONING TEMPLATE AND TWO- (2) NUTS AND WASHERS PER BOLT PROVIDED TO SUIT THE POLE BASEPLATE. FOUNDATION BOLTS MUST BE MANUFACTURED FROM DEFORMED REINFORCING BARS WITH A NOMINAL YIELD STRESS OF 500 MPA. PROVIDE BOLTS THREADED IN ACCORDANCE WITH AS1275-1985 METRIC SCREW THREADS FOR FASTENERS AND FITTED WITH CLASS 5 NUTS IN ACCORDANCE WITH AS/NZS 1112 ISO METRIC HEXAGON NUTS. FOUNDATION BOLTS MUST BE TIED TO A SUITABLE REINFORCING CAGE. THE LENGTH OF EACH FOUNDATION BOLT MUST ALLOW FOR THE LENGTH OF THE THREAD ABOVE GROUND, A MINIMUM OF 100MM COVER AND A DEVELOPMENT LENGTH IN ACCORDANCE WITH AS3600-1994 CONCRETE STRUCTURES, TABLE 13.1.2.2(A). THE UNDERSIDE OF THE BASEPLATE IS TO BE GROUTED.

THE SECTION CAPACITY OF THE POLE IS TO BE ANALYSED OVER A MINIMUM OF 100 INCREMENTS ACCORDING TO AS4100 STEEL STRUCTURES AND AS/NZS 4600 COLD-FORMED STEEL STRUCTURES. LUMINARIES ARE TO BE ACCESSED BY EXTERNAL MACHINERY E.G. CHERRY PICKERS. LUMINAIRE CROSSARMS SHALL BE DESIGNED TO ENSURE EASY ACCESS OF FITTINGS FOR RE-LAMPING AND AIMING. CLIMBING RUNGS AND MAINTENANCE PLATFORMS ARE NOT REQUIRED.

THE POLE AND ALL STEEL ACCESSORIES ARE TO BE POWDER COATED BLACK HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AS/NZS 4680 HOT-DIP GALVANIZED (ZINC) COATINGS ON FABRICATED FERROUS ARTICLES.

THE POLES ARE TO BE SANDED AFTER GALVANIZING AND PREHEATED TO 220°C TO DRIVE OFF ANY TRAPPED GAS UNDER THE GALVANIZED SURFACE. A ZINC RICH PRIME COAT INTERPON POLYZINC 660 OR EQUIVALENT SHALL BE APPLIED TO WITHIN 60mm AND 80mm WITHIN FOUR HOURS OF PREHEATING AND GREEN CURED TO 200°C FOR 3 MINUTES. PRIME COAT SHALL BE LIGHTLY SANDED BEFORE APPLICATION OF TOP COAT. COLOUR TOPCOAT SHALL BE A RIPPLE, HIGH BUILD FINISH TO WITHIN 50µM AND 70µM. ENSURE ALL MANUFACTURING TOLERANCES ARE IN ACCORDANCE WITH AS 1798 LIGHTING POLES AND BRACKET ARMS PREFERRED DIMENSIONS. IN PARTICULAR THE POLES SHALL BE CHECKED FOR COMPLIANCE WITH THE STRAIGHTNESS REQUIREMENTS OF THIS STANDARD: 0.3% OF HEIGHT.

ASSEMBLY AND ERECTION ARE TO BE CARRIED OUT ONLY BY QUALIFIED RIGGING PERSONNEL. GROUT THE UNDERSIDE OF ALL POLE BASEPLATES WITHIN SEVEN- (7) DAYS OF INSTALLING THE POLE.

NOTES

12.0 COMMUNICATIONS CABLING

THE COMMUNICATIONS CABLING COMPONENT OF THIS CONTRACT INCLUDES A NEW COMMUNICATIONS RACK CR-T IN THE SUBTERRANEAN TANK ROOM CONNECTED TO THE CLUBHOUSES MAIN EXISTING COMMUNICATIONS RACK VIA A NEW GEL FILLED UNDERGROUND 12 CORE OM4 OPTICAL FIBRE CABLE WITH LC CONNECTORS. A NEW FIBOT IS TO BE PROVIDED IN THE CLUBHOUSES MAIN EXISTING COMMUNICATIONS RACK AND IN CR-T.

THE COMMUNICATIONS CABLING COMPONENT OF THIS CONTRACT INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING EXTENT OF WORK:

- COMMUNICATIONS RACK CR-T.
- FIBOTS.
- OM4 OPTICAL FIBRE CABLE.
- LABELLING.
- TESTING AND COMMISSIONING.

13. FIRE ALARM SYSTEM

THE EXISTING AS1670.1 FIRE ALARM SYSTEM IS TO BE EXPANDED TO INCLUDE THE NEW MDB-1 ROOM AND THE NEW SUBTERRANEAN TANK ROOM. THE FIRE ALARM SERVICES INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- SUPPLY AND INSTALLATION OF ALL COMPONENTS FORMING PART OF THE FIRE ALARM SERVICES.
- CO-ORDINATION.
- INSPECTIONS.
- TESTING AND COMMISSIONING.
- MAINTENANCE.
- DETECTORS.
- SPEAKERS AND HORNS.
- UPGRADING THE EXISTING FIP AS NECESSARY.
- UPDATING THE ZONE PLAN.
- CABLING, CABLE SUPPORT SYSTEMS AND ACCESS.
- EXPANDING THE CLUBS EXISTING BRIGADE MONITORED AS1670.1 ADDRESSABLE FIRE ALARM SYSTEM INTO THE MDB-1 ROOM AND THE NEW SUBTERRANEAN TANK ROOM.
- ALL MINOR COMPONENTS AND INCIDENTAL WORKS NOT SPECIFICALLY REFERRED TO, HOWEVER NECESSARY TO COMPLETE THE FIRE ALARM SERVICES INSTALLATION SUCH THAT IT IS HANDED OVER COMPLETE, OPERATIONAL AND FIT FOR THE INTENDED USE.

PRIOR TO PRACTICAL COMPLETION CERTIFY THE INSTALLATION ON A FORM 16 AS COMPLYING WITH THE RELEVANT CODES AND STANDARDS AND INCLUDE A COPY OF THE CERTIFICATION IN THE MANUAL.

PROVIDE THE AS CONSTRUCTED AND COMMISSIONING INFORMATION TO ALLOW THE AS1670.1 DESIGNERS STATEMENT TO BE COMPLETED.

THE TANK ROOM SERVICES ARE TO BE ON DEDICATED LOOPS / ZONES FROM THE CLUB HOUSE SERVICES.

IRRESPECTIVE OF THE SERVICES DETAILED ON THE DRAWING, THE SYSTEM MUST BE COMPLIANT WITH AS1670.1:2024 AND THE REQUIREMENTS OF THE QUEENSLAND FIRE AND EMERGENCY SERVICES.

THE CONTRACTOR IS RESPONSIBLE FOR PAYING ANY CALL OUT FEES ISSUED BY QUEENSLAND FIRE DEPARTMENT THAT ARE THE RESULT OF DEFECTIVE WORKS, CABLING, OR SYSTEM COMPONENTS

ENSURE ALL AS1670.1:2024 WORKS ARE UNDERTAKEN BY, OR UNDER THE DIRECTION OF A SUITABLY QUALIFIED AND EXPERIENCED FIRE ALARM SYSTEM INSTALLER WHO HOLD THE REQUIRED QBCC AND FIRE PROTECTION CONTRACTORS REGISTRATION BOARD OF QUEENSLAND INC REGISTRATIONS. ENSURE ALL 240-VOLT WORKS ARE UNDERTAKEN BY AN ELECTRICIAN WITH AN ELECTRICAL SUB CONTRACTORS LICENCE. ENSURE THE INSTALLATION AND ALL COMPONENTS, FIXTURES, FITTINGS, OUTLETS AND CABLES ARE SUPPLIED AND INSTALLED TO A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS. ENSURE ALL MATERIALS AND COMPONENTS OF A SIMILAR TYPE ARE OF THE SAME MANUFACTURER AND INSTALLED IN A UNIFORM MANNER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FIRE ALARM INSTALLATION IS FIT FOR PURPOSE AND IS PROVIDED AS A COMPLETE WORKING INSTALLATION. IT IS THE FIRE ALARM CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL COMPONENTS, FITTINGS, FIXTURES, SYSTEMS, PROGRAMMING ETC IRRESPECTIVE OF THE LEVEL DETAILED IN THE DOCUMENTS SUCH THAT THE INSTALLATION IS PROVIDED AS A COMPLETE WORKING INSTALLATION.

<div>ELECTRICAL DESIGN GROUP BRISBANE PTY LTD ACN 092 710 793</div> <div>TRADING AS: ELECTRICAL DESIGN GROUP</div>		<div>THE COPYRIGHT OF THIS DRAWING REMAINS THE PROPERTY OF THE ELECTRICAL DESIGN GROUP.</div> <div>USE FIGURED DIMENSIONS IN PREFERENCE TO SCALE.</div> <div>ALL DIMENSIONS TO BE VERIFIED ONSITE.</div>	<div><div><div></div><div>ELECTRICAL DESIGN GROUP</div></div><div>ELECTRICAL BUILDING SERVICES CONSULTANTS</div><div>BRISBANE GOLD COAST</div><div>P.O.Box 15, Sherwood Q.4075 Phone: (07) 3278 4375 Email: brisbane@edg.net.au Web: www.edg.net.au</div></div>	<div>PROJECT: THE LION RICHLANDS - CARPARK UPGRADE</div> <div>133 PINE ROAD, RICHLANDS</div>	<table><tr><td>C</td><td>APPROVAL</td><td>02/04/2025</td></tr><tr><td>REV:</td><td>DESCRIPTION:</td><td>DATE:</td></tr><tr><td colspan="3">DRAWING: ELECTRICAL SERVICES NOTES 2</td></tr><tr><td>SCALE: NTS</td><td>PROJECT NO: C3379a</td><td>DRAWING NO: E08</td></tr><tr><td colspan="2">AT A1</td><td>REVISION: C</td></tr></table>	C	APPROVAL	02/04/2025	REV:	DESCRIPTION:	DATE:	DRAWING: ELECTRICAL SERVICES NOTES 2			SCALE: NTS	PROJECT NO: C3379a	DRAWING NO: E08	AT A1		REVISION: C
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