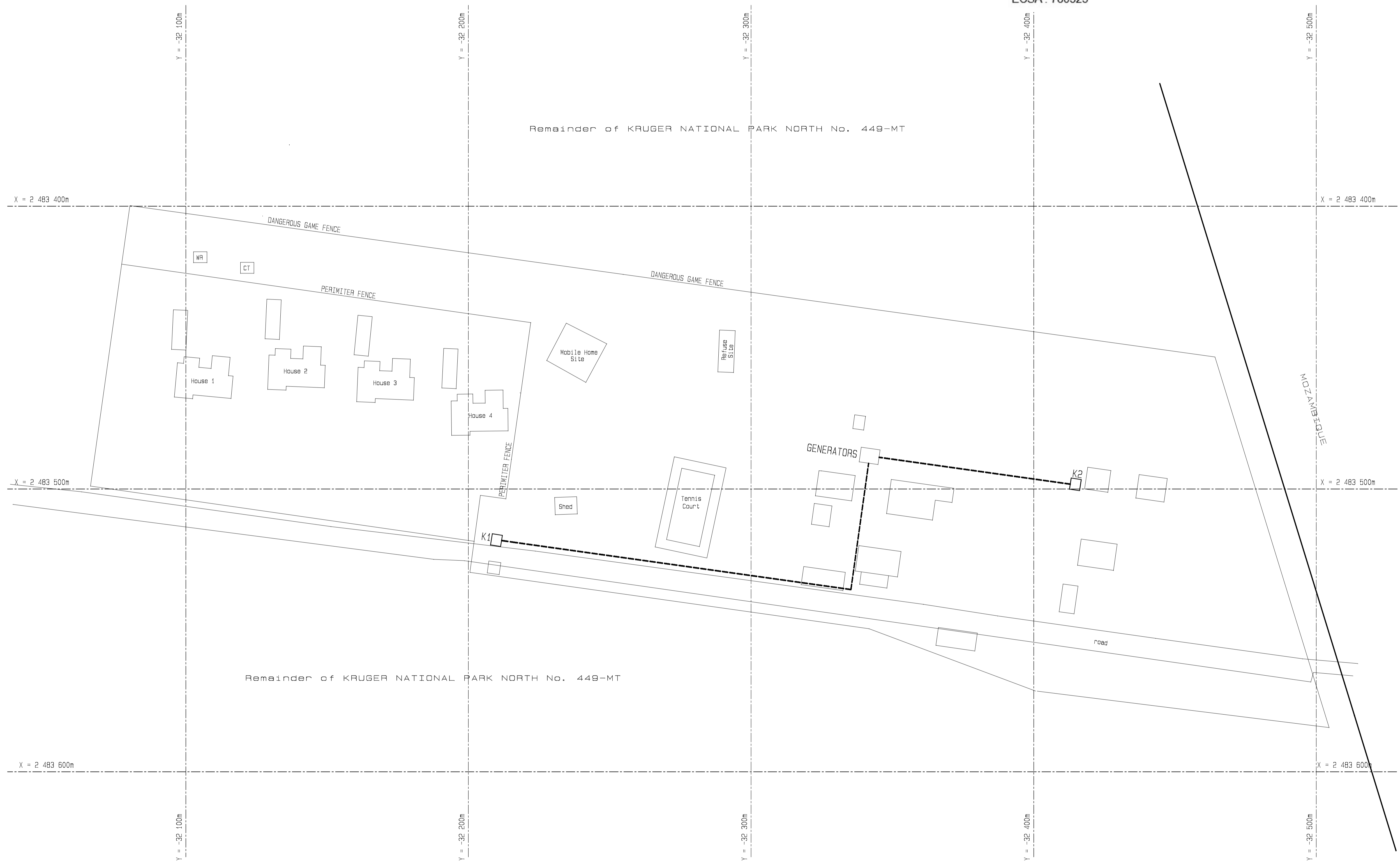


ELECTRICAL SYMBOLS	
	EXISTING LV CABLE
	EXISTING DISTRIBUTION KIOSK



 Approved by Design Leader
 Johann Erwee
 Professional Engineer
 ECSA : 780325



No.	DATE	AMENDMENT	D.P.W.
A2	14-08-'23	PROJECT DESCRIPTION REVISED	CJ LOURENS

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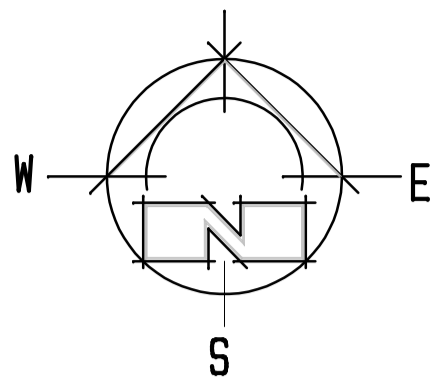
service
**PAFURI LAND PORT OF ENTRY (LPOE):
 SUPPLY AND INSTALLATION OF
 SOLAR PANEL AND WASTE WATER
 FACILITY**

WCS number **052476**

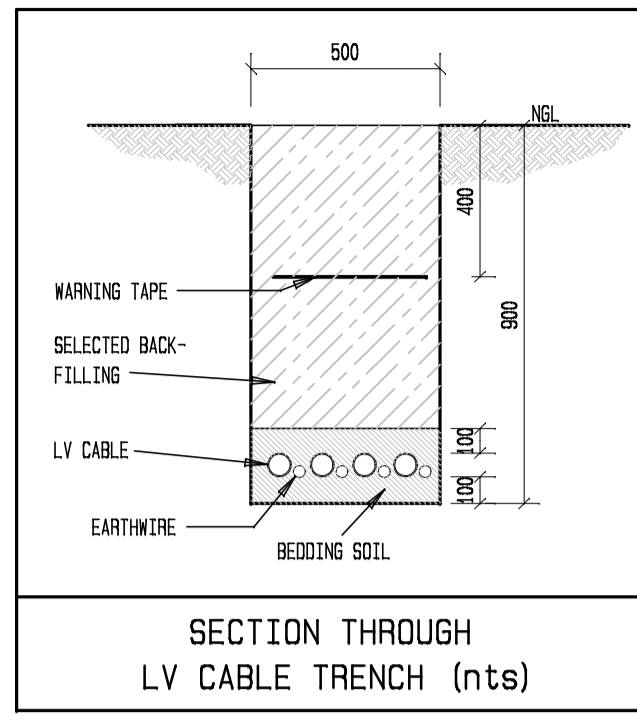
drawing title
**SITE PLAN:
 EXISTING ELECTRICAL
 RETICULATION**

ref.no. 6022/0079/20B	designed M de KOCK
scale 1:750	drawn Draftplan
date 20 / 06 / 2014	checked M de KOCK
DPW drawing number	

EE10492/01-01/A2



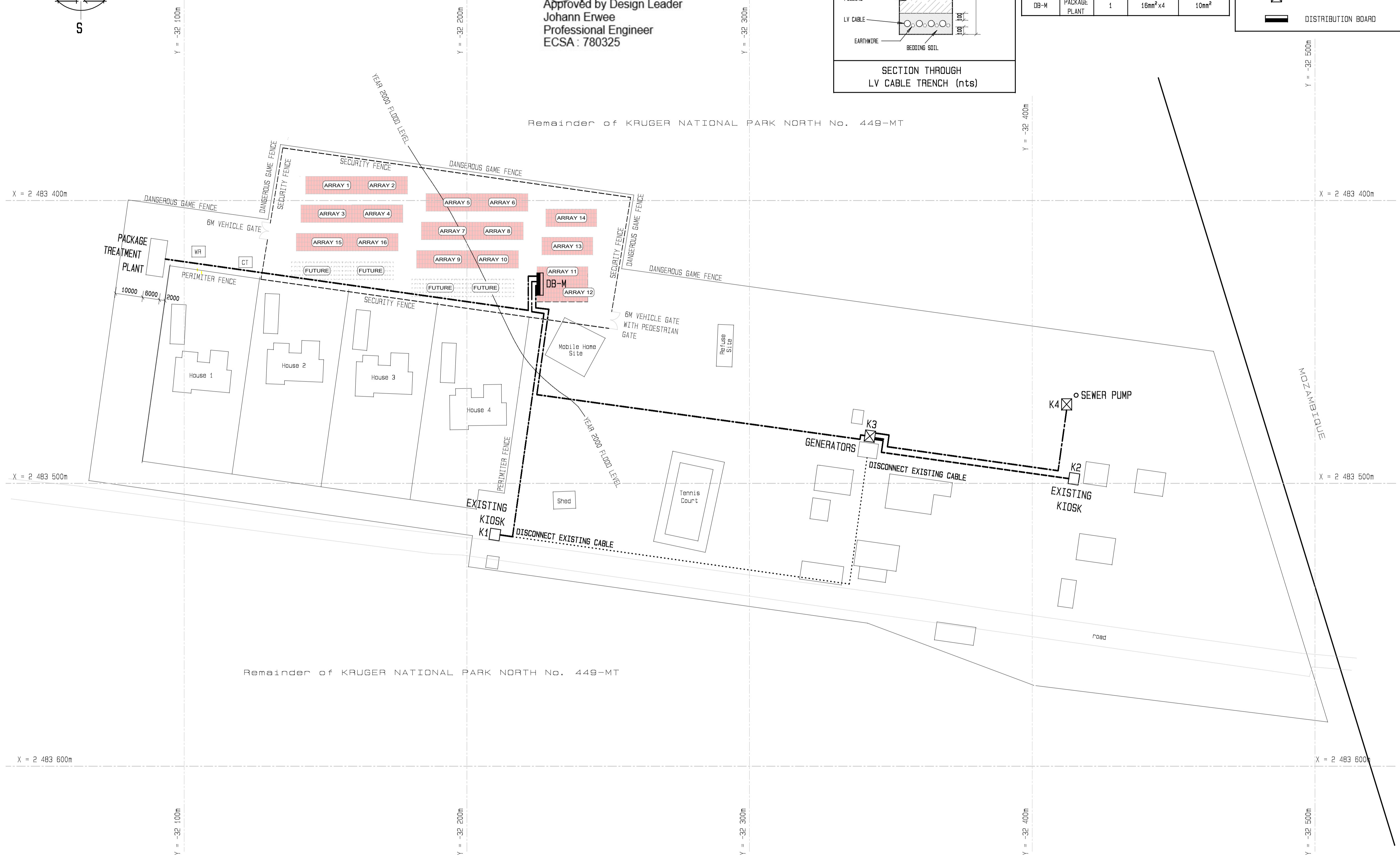
Approved by Design Leader
 Johann Erwee
 Professional Engineer
 ECSA: 780325



LOW VOLTAGE CABLE SCHEDULE:				
600/1000V PVC/PVC/SWA/PVC				
FROM	TO	NO OF CABLES	CABLE SIZE & No OF CORES	EARTHWIRE SIZE mm ²
DB-M	K1	1	50mm ² x4	35mm ²
DB-M	K3	1	70mm ² x4	50mm ²
K3	K4	1	16mm ² x4	10mm ²
DB-M	PACKAGE PLANT	1	16mm ² x4	10mm ²

ELECTRICAL SYMBOLS	
	NEW LV CABLE
	EXISTING LV CABLE
	EXISTING DISTRIBUTION KIOSK
	NEW DISTRIBUTION KIOSK
	DISTRIBUTION BOARD

No.	DATE	AMENDMENT	D.P.W.
A2	02-11-17	GENERAL SITE LAYOUT REVISED	M de KOCK
A3	16-05-18	YEAR 2000 FLOOD LEVEL CORRECTED	M de KOCK
A4	18-06-19	CABLE SUPPLY FROM K3 TO K4 & DB-M TO PACKAGE PLANT ADDED ARRAYS 14, 15 & 16 ADDED.	M de KOCK
A5	14-08-23	PROJECT DESCRIPTION REVISED	CJ LOURENS
A6	24-11-23	LV CABLE TRENCH DETAIL ADDED	CJ LOURENS



Remainder of KRUGER NATIONAL PARK NORTH No. 449-MT

Remainder of KRUGER NATIONAL PARK NORTH No. 449-MT

ELECTRICAL ALTERATIONS AT EXISTING EQUIPMENT

1. EXISTING KIOSK K1
 - 1.1. DISCONNECT EXISTING CABLE, SEAL END AND BURY IN GROUND.
 - 1.2. CONNECT NEW SUPPLY CABLE FROM DB-M TO KIOSK K1.
2. EXISTING KIOSK K2
 - 2.1. SUPPLY CABLE REMAIN UNCHANGED.
3. EXISTING GENERATORS
 - 3.1. INSTALL NEW KIOSK K3 AND CONNECT TO NEW SUPPLY CABLE FROM DB-M
 - 3.2. DISCONNECT EXISTING SUPPLY CABLE TO KIOSK K1, SEAL END AND BURY IN GROUND.
 - 3.3. DISCONNECT EXISTING SUPPLY CABLE TO KIOSK K2, REROUTE, EXTEND AND CONNECT INTO KIOSK K3.
 - 3.4. DISCONNECT GENERATORS, REMOVE, MODIFY AND RELOCATE AS PER SPECIFICATION.
 - 3.5. REMOVE ALL ELECTRICAL DBs, CABLING ETC FROM GENERATOR ROOM TO ALLOW ROOM TO BE USED FOR STORAGE.

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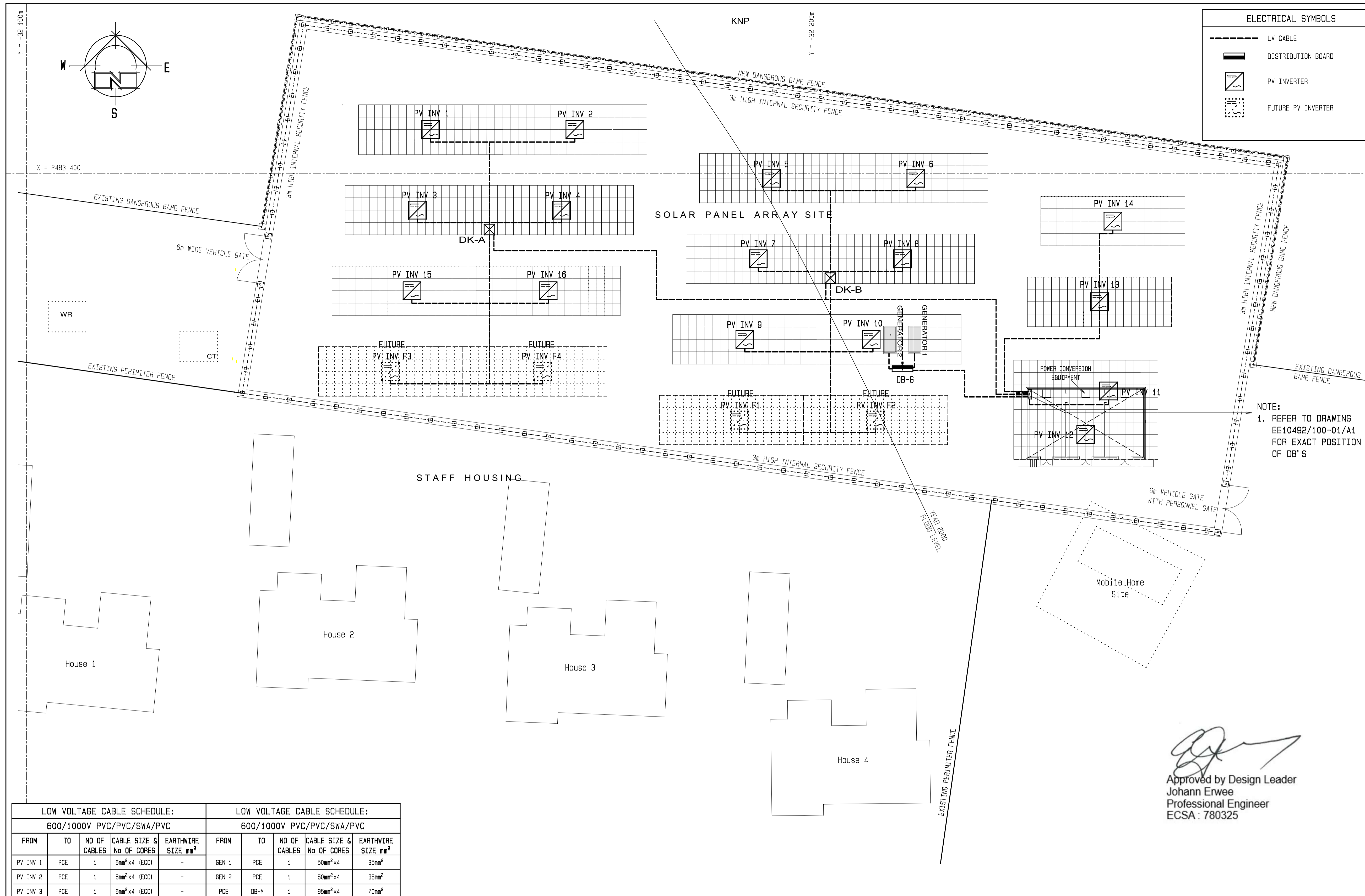
service
**PAFURI LAND PORT OF ENTRY (LPOE):
 SUPPLY AND INSTALLATION OF
 SOLAR PANEL AND WASTE WATER
 FACILITY**

WCS number
052476

drawing title
**SITE PLAN:
 ALTERATIONS TO EXISTING
 ELECTRICAL RETICULATION**

ref.no: 6022/0079/20B designed M de KOCK
 scale 1:750 drawn Draftplan
 date 20 / 06 / 2014 checked M de KOCK
 DPW drawing number

EE10492/01-02/A6



ELECTRICAL SYMBOLS	
	LV CABLE
	DISTRIBUTION BOARD
	PV INVERTER
	FUTURE PV INVERTER

NOTE:
1. REFER TO DRAWING EE10492/100-01/A1 FOR EXACT POSITION OF DB'S

No.	DATE	AMENDMENT	D.P.W.
A2	02-11-17	ENERGY STORAGE & EQUIPMENT ROOM REVISED AND SITE LAYOUT ADJUSTED	M de KOCK
A3	16-05-18	YEAR 2000 FLOOD LINE ADDED	M de KOCK
A4	11-06-19	LV CABLE ROUTES INDICATED ARRAYS 14, 15 & 16 ADDED	M de KOCK
A5	14-08-23	PROJECT DESCRIPTION REVISED	CJ LOURENS

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service
PAFURI LAND PORT OF ENTRY (LPOE):
SUPPLY AND INSTALLATION OF SOLAR PANEL AND WASTE WATER FACILITY

WCS number
052476

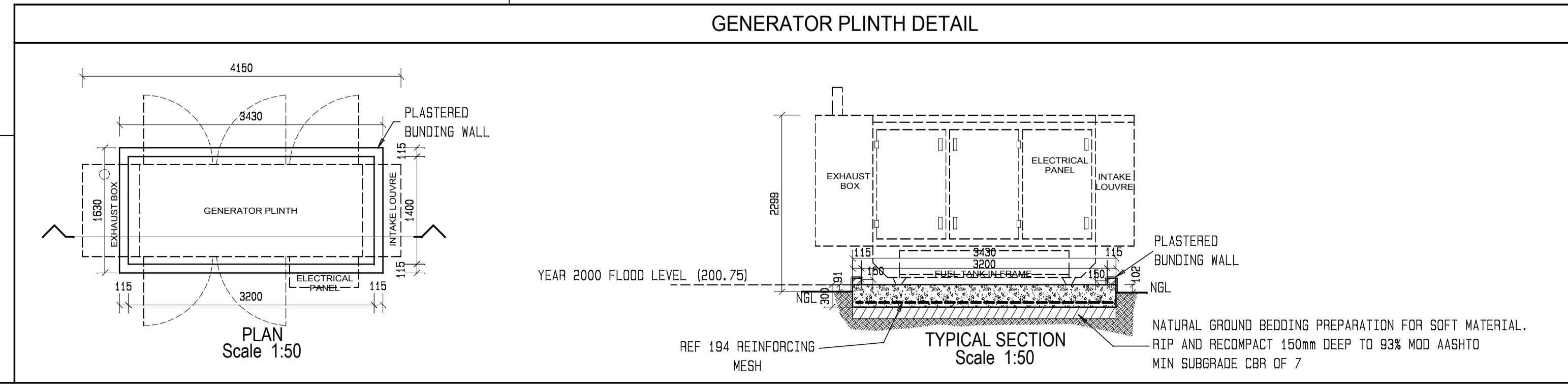
drawing title
**SITE PLAN:
SOLAR ARRAY SITE
LV CABLE RETICULATION**

ref.no: 6022/0079/20B designed M de KOCK
scale 1:250 drawn Draftplan
date 20 / 06 / 2014 checked M de KOCK

DPW drawing number
EE10492/01-03/A5

LOW VOLTAGE CABLE SCHEDULE:					LOW VOLTAGE CABLE SCHEDULE:				
FROM	TO	NO OF CABLES	CABLE SIZE & No OF CORES	EARTHWIRE SIZE mm ²	FROM	TO	NO OF CABLES	CABLE SIZE & No OF CORES	EARTHWIRE SIZE mm ²
PV INV 1	PCE	1	6mm ² x4 (ECC)	-	GEN 1	PCE	1	50mm ² x4	35mm ²
PV INV 2	PCE	1	6mm ² x4 (ECC)	-	GEN 2	PCE	1	50mm ² x4	35mm ²
PV INV 3	PCE	1	6mm ² x4 (ECC)	-	PCE	DB-M	1	95mm ² x4	70mm ²
PV INV 4	PCE	1	6mm ² x4 (ECC)	-					
PV INV 5	PCE	1	6mm ² x4 (ECC)	-					
PV INV 6	PCE	1	6mm ² x4 (ECC)	-					
PV INV 7	PCE	1	6mm ² x4 (ECC)	-					
PV INV 8	PCE	1	6mm ² x4 (ECC)	-					
PV INV 9	PCE	1	6mm ² x4 (ECC)	-					
PV INV 10	PCE	1	6mm ² x4 (ECC)	-					
PV INV 11	PCE	1	6mm ² x4 (ECC)	-					
PV INV 12	PCE	1	6mm ² x4 (ECC)	-					
PV INV 13	PCE	1	6mm ² x4 (ECC)	-					
PV INV 14	PCE	1	6mm ² x4 (ECC)	-					
PV INV 15	PCE	1	6mm ² x4 (ECC)	-					
PV INV 16	PCE	1	6mm ² x4 (ECC)	-					

NOTE: PCE - POWER CONVERSION EQUIPMENT
PV INV - PHOTOVOLTAIC INVERTER





No.	DATE	AMENDMENT	D.P.W.
A2	02-11-17	GENERAL SITE LAYOUT AND LIGHT SCHEDULE REVISED	M de KOCK
A3	16-05-18	YEAR 2000 FLOOD LEVEL ADDED AND LIGHT FITTING SCHEDULE REVISED	M de KOCK
A4	11-06-19	ARRAY LAYOUT REVISED	M de KOCK
A5	14-08-23	PROJECT DESCRIPTION REVISED	CJ LOURENS

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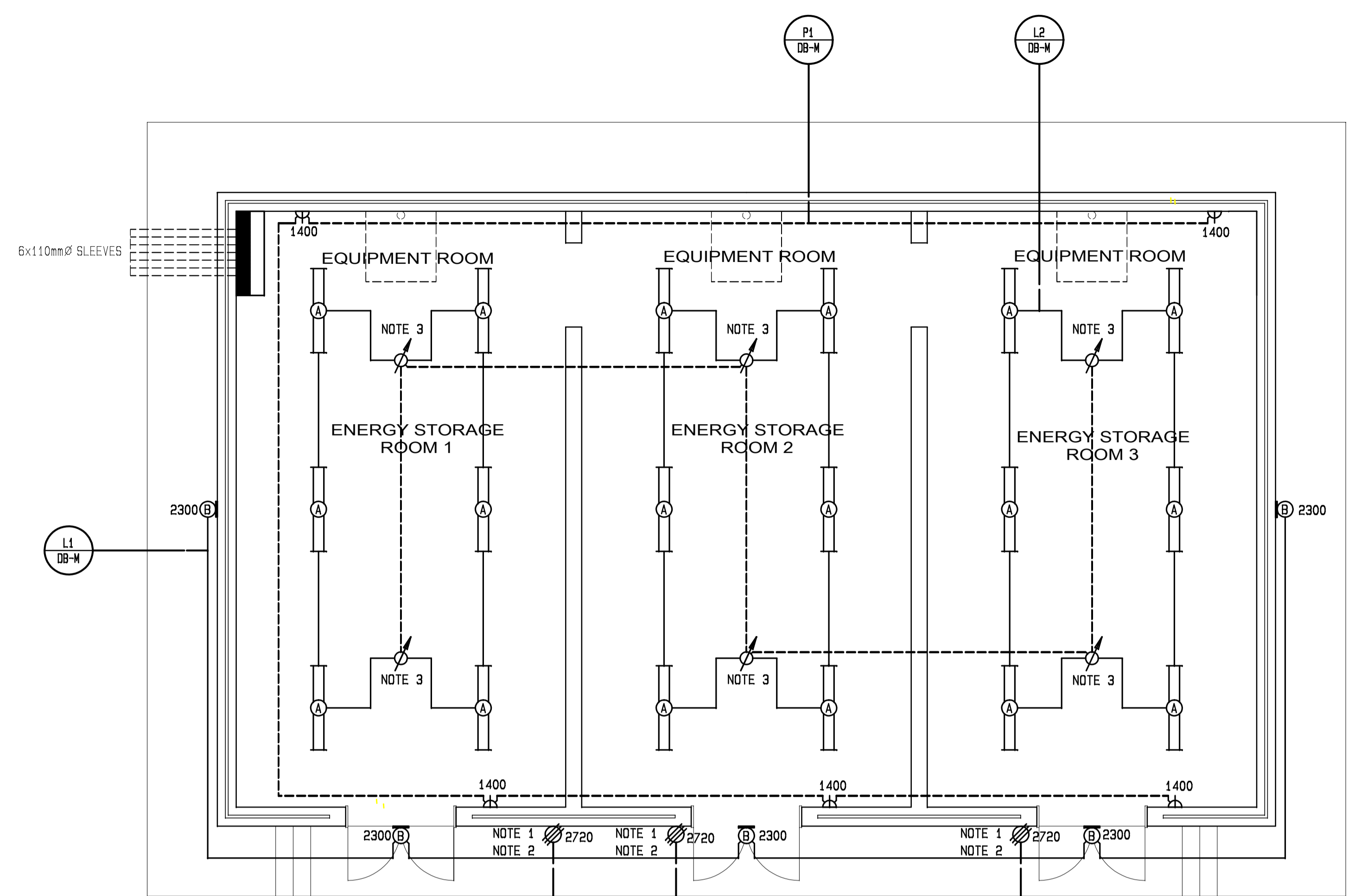
service
**PAFURI LAND PORT OF ENTRY (LPOE):
SUPPLY AND INSTALLATION OF
SOLAR PANEL AND WASTE WATER
FACILITY**

WCS number: 052476

drawing title
**SITE PLAN:
SOLAR ARRAY SITE
SECURITY LIGHT LAYOUT**

ref.no: 6022/0079/20B designed M de KOCK
scale 1:250 drawn Draftplan
date 20 / 06 / 2014 checked M de KOCK
DPW drawing number
EE10492/01-04/A5

Approved by Design Leader
Johann Erwee
Professional Engineer
ECSA : 780325



ENERGY STORAGE AND EQUIPMENT ROOM ELECTRICAL LAYOUT 1:50

- ELECTRICAL NOTES:**
- ISOLATOR TO BE RATED IP65
 - ISOLATOR TO BE MOUNTED WITHIN 1000mm OFF EQUIPMENT TERMINALS.
 - OCCUPANCY SWITCH TO BE SUITABLE FOR SURFACE MOUNTING.

ELECTRICAL SYMBOLS

	DISTRIBUTION BOARD
	FLUORESCENT LIGHT FITTING
	WALL MOUNTED LIGHT FITTING
	LIGHT SWITCH
	OCCUPANCY SWITCH
	15A 3 PIN SSO
	THREE PHASE OUTLET 30A
	THREE POLE ISOLATOR
	SINGLE PHASE OUTLET 30A
	DOUBLE POLE ISOLATOR
	INDICATES SWITCHING
	INDICATES CIRCUIT
	SLEEVE PIPE
	CIRCUIT INDICATOR

Approved by Design Leader
Johann Erwee
 Professional Engineer
 ECSA : 780325

SCHEDULE OF LIGHT FITTINGS

SYMBOL	DESCRIPTION	REMARKS
A	THE LUMINAIRE CONSISTS OF AN INJECTION-MOLDED, FLAME RETARDANT POLY CARBONATE HOUSING AND PRISMATIC DIFFUSER. THE PONDOR COATED WHITE REFLECTOR AND CONTROL GEAR TRAY, UPON WHICH ALL ELECTRICAL COMPONENTS ARE MOUNTED, ARE SECURED BY MEANS OF MULTIPLE TWIST LOCK LATCHES TO SECURE THE REFLECTOR TO THE HOUSING. THE SILICONE SPONGE SEAL IS MOLDED INTO THE HOUSING TO ENSURE AN OPTIMAL SEAL BETWEEN THE HOUSING AND THE PRISMATIC DIFFUSER. TWO OF THE STAINLESS-STEEL LATCHES FACILITATE THE HINGING OF THE DIFFUSER AND ENSURE CORRECT ALIGNMENT WHEN CLOSING THE DIFFUSER. IT MUST BE DESIGNED TO OPERATE 40W LEDS. THE LIGHT FITTING MUST IN GENERAL COMPLY WITH THE DEPARTMENT'S SPECIFICATION FOR TUBULAR FLUORESCENT LUMINAIRES FOR INTERIOR APPLICATION.	THE LUMINAIRE SHALL BEAR THE SABS MARK SANS 60598 AND SANS 1464-22. THE LUMINAIRE SHALL BE IP65 WITH A LIGHT COLOUR OF 4000K. THE CONTROL GEAR SHALL BE CONSTANT CURRENT DRIVER (LED) ECG (FL) WITH 10KV SURGE PROTECTION. THE LUMINAIRE WILL BE 230V AC RATED.
B	THE LINEAR LUMINAIRE BASE AND TRIM RING IS MANUFACTURED OF A HIGH-PRESSURE DIE-CAST ALUMINIUM (EN 1706 AC-44300). THE TRIM RING CASING IS MOUNTED ONTO THE BASE CASING BY MEANS OF STAINLESS STEEL M6 ALLEN HEAD SCREWS, LOCATED OUTSIDE THE LAMP COMPARTMENT. THE BASE AND TRIM ARE FINISHED WITH EPOXY POWDER COATING. AN OPAL NON-DISCOLOURING HIGH IMPACT INJECTION MOLDED DIFFUSER IS USED THROUGHOUT THE RANGE. IT SHALL OFFER EXCELLENT VANDAL RESISTANCE, BE HIGHLY TRANSLUCENT AND SHALL NOT DISCOLOUR EVEN WHEN SUBJECTED TO THE HARSHTEST OF ENVIRONMENTS. A SILICONE SPONGE GASKET SHALL BE FITTED INTO A SPECIAL GROOVE IN THE DIFFUSER TO PREVENT DAMAGE TO THE GASKET DURING INSTALLATION AND TO ACHIEVE THE CERTIFIED INGRESS PROTECTION RATINGS OF IP65. ALL INTERCONNECTING WIRING IS TEFLOW INSULATED. IT SHALL BE DESIGNED TO OPERATE LEDS OF UP TO 20W. THE LIGHT FITTING MUST IN GENERAL COMPLY WITH THE DEPARTMENT'S SPECIFICATION FOR BULKHEAD LUMINAIRES FOR INTERIOR AND EXTERIOR APPLICATION.	THE LUMINAIRE SHALL BEAR THE SABS MARK SANS 60598 AND SANS 1464-22. THE LUMINAIRE SHALL BE IP65 WITH A LIGHT COLOUR OF 4000K. THE CONTROL GEAR SHALL BE CONSTANT CURRENT DRIVER (LED) ECG (FL) WITH 10KV SURGE PROTECTION. THE LUMINAIRE WILL BE 230V AC RATED.
C	THE POLE MOUNTED LUMINAIRE DESIGNED FOR OPTIMIZED PERIMETER LIGHTING. LUMINAIRES CONSIST OF A SPIGOT BASE COMPARTMENT AND HINGED LED ENGINE TOP CASING. THE HINGED DESIGN ALLOWS THE EASY INSTALLATION OF THE LED ENGINE AND THE STAINLESS-STEEL LATCHES ALLOWS FOR EASY CLOSURE ACHIEVING THE IP65 WATER INGRESS PROTECTION OF THE ELECTRONIC COMPONENTS. THE DESIGN CAN OPERATE LEDS UP TO 50W. THE LUMINAIRE SHALL BE SUPPLIED AND INSTALLED WITH 6M MOUNTING HEIGHT (6.9 OVERALL LENGTH). THE LIGHT FITTING MUST IN GENERAL COMPLY WITH THE DEPARTMENT'S SPECIFICATION FOR SECURITY LUMINAIRES FOR PRISON APPLICATION AND THE POLE WITH THE DEPARTMENT'S STANDARD SPECIFICATION FOR FIBRE GLASS REINFORCED POLYESTER LIGHTING POLES.	THE LUMINAIRE SHALL BEAR THE SANS 475 PERFORMANCE MARK AND THE SANS 60598-2-3 SAFETY MARK. THE LUMINAIRE SHALL HAVE A DEGREE OF PROTECTION THAT COMPLIES WITH SANS 60598-2-3. LED COMPARTMENT: IP66 THE IP RATING IS SUPPORTED BY A CERTIFIED TEST REPORT.

No.	DATE	AMENDMENT	D.P.W.
A2	02-11-17	BUILDING LAYOUT AND ELECTRICAL INSTALLATION REVISED	M de KOCK
A3	17-05-18	LIGHT FITTING SCHEDULE ADDED	M de KOCK
A4	19-06-19	1 x AC1 ISOLATOR REMOVED	M de KOCK
A5	14-08-23	PROJECT DESCRIPTION REVISED	CJ LOURENS

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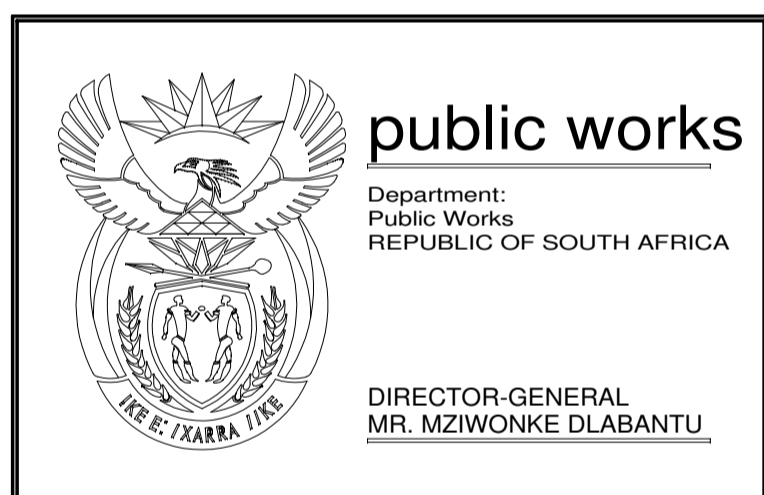
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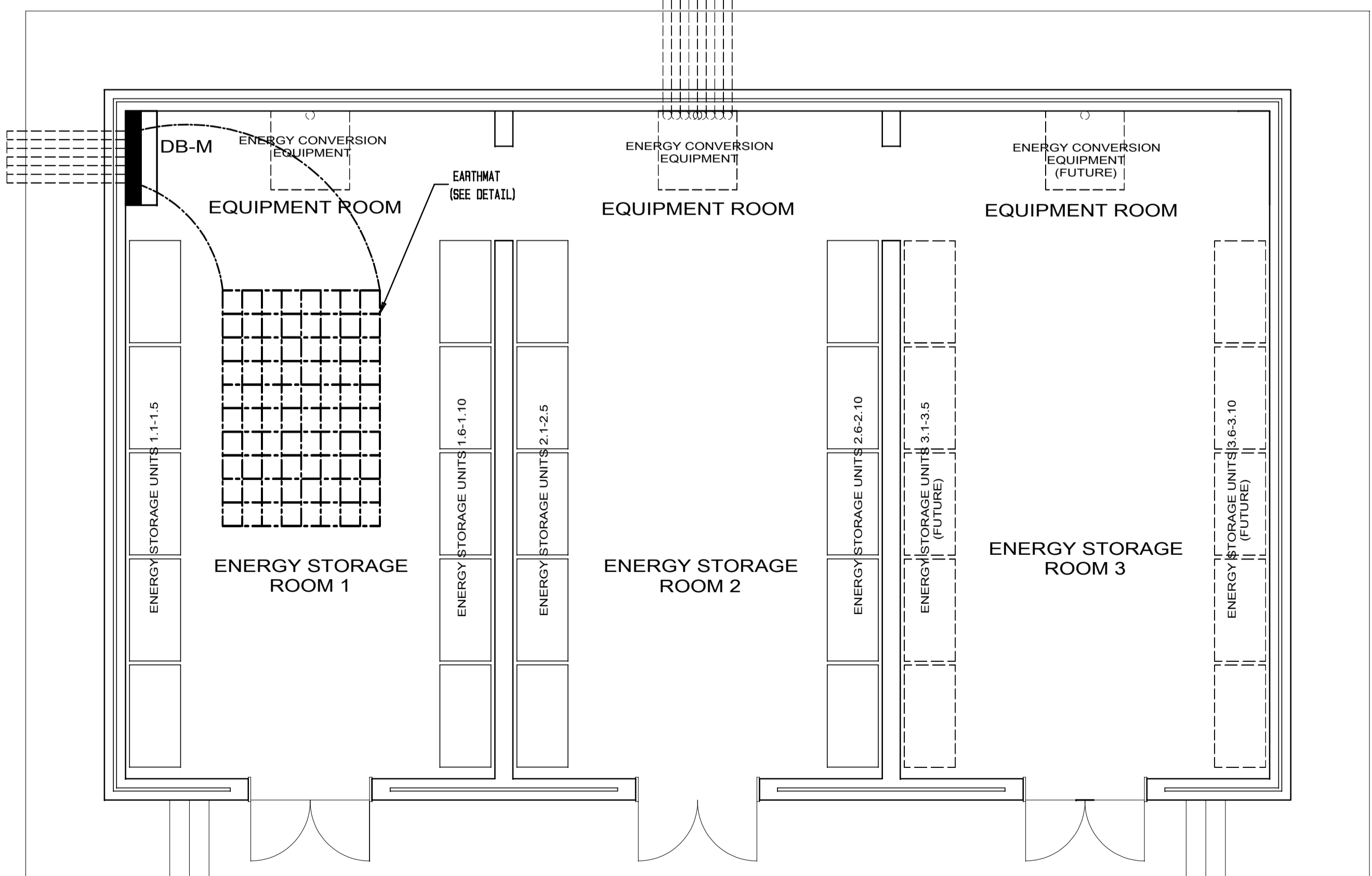
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service: PAFURI LAND PORT OF ENTRY (LPOE): SUPPLY AND INSTALLATION OF SOLAR PANEL AND WASTE WATER FACILITY

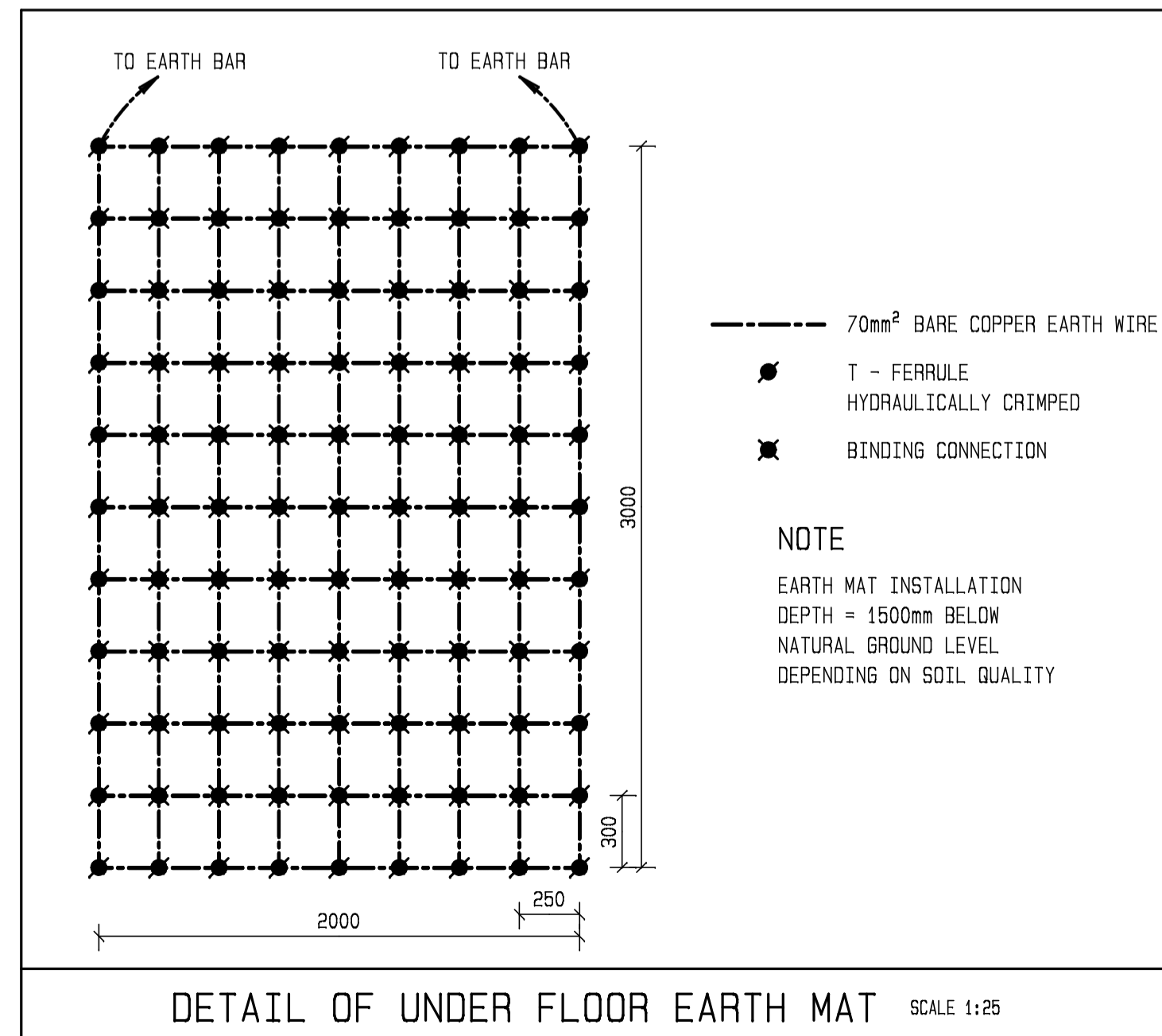
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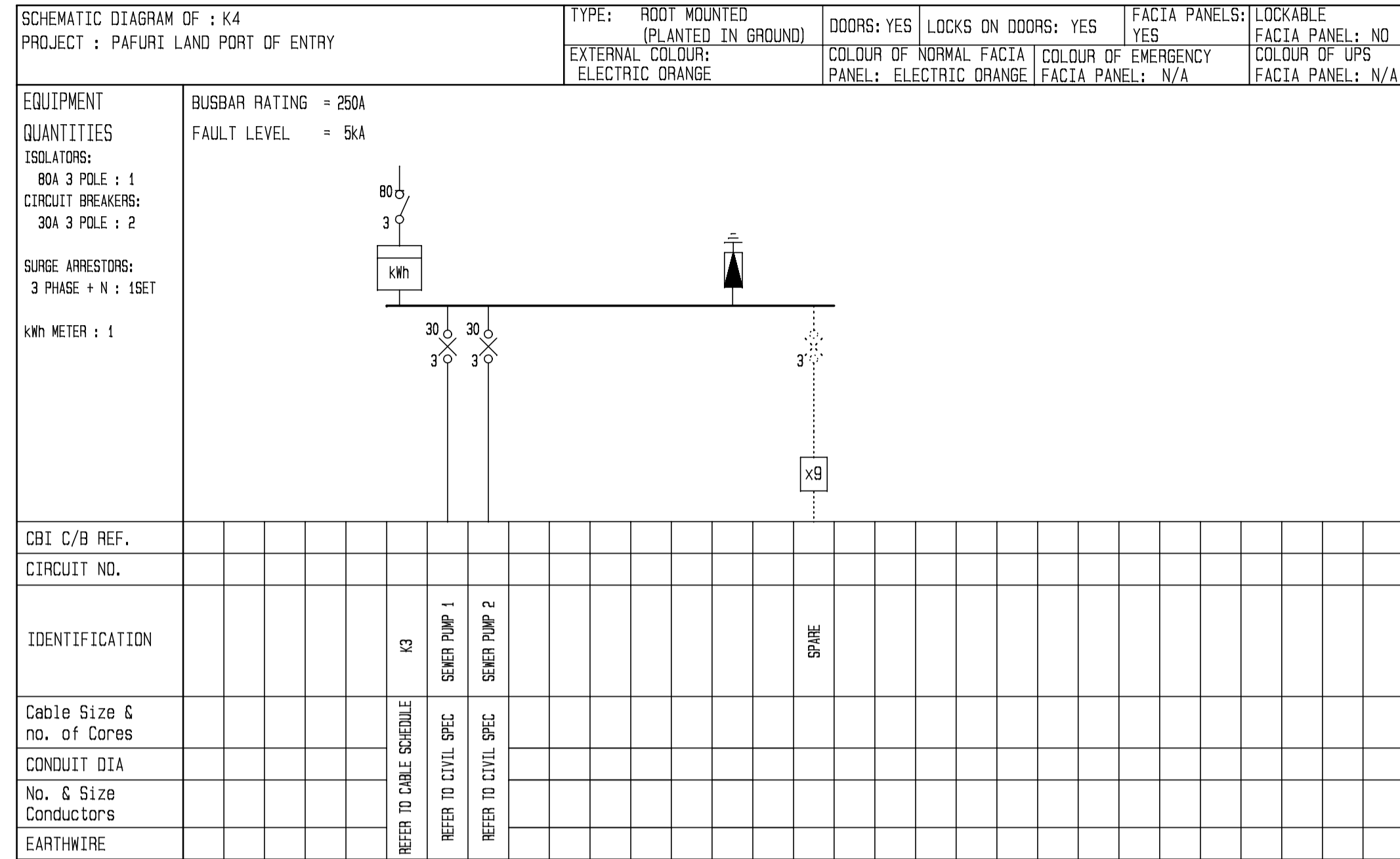
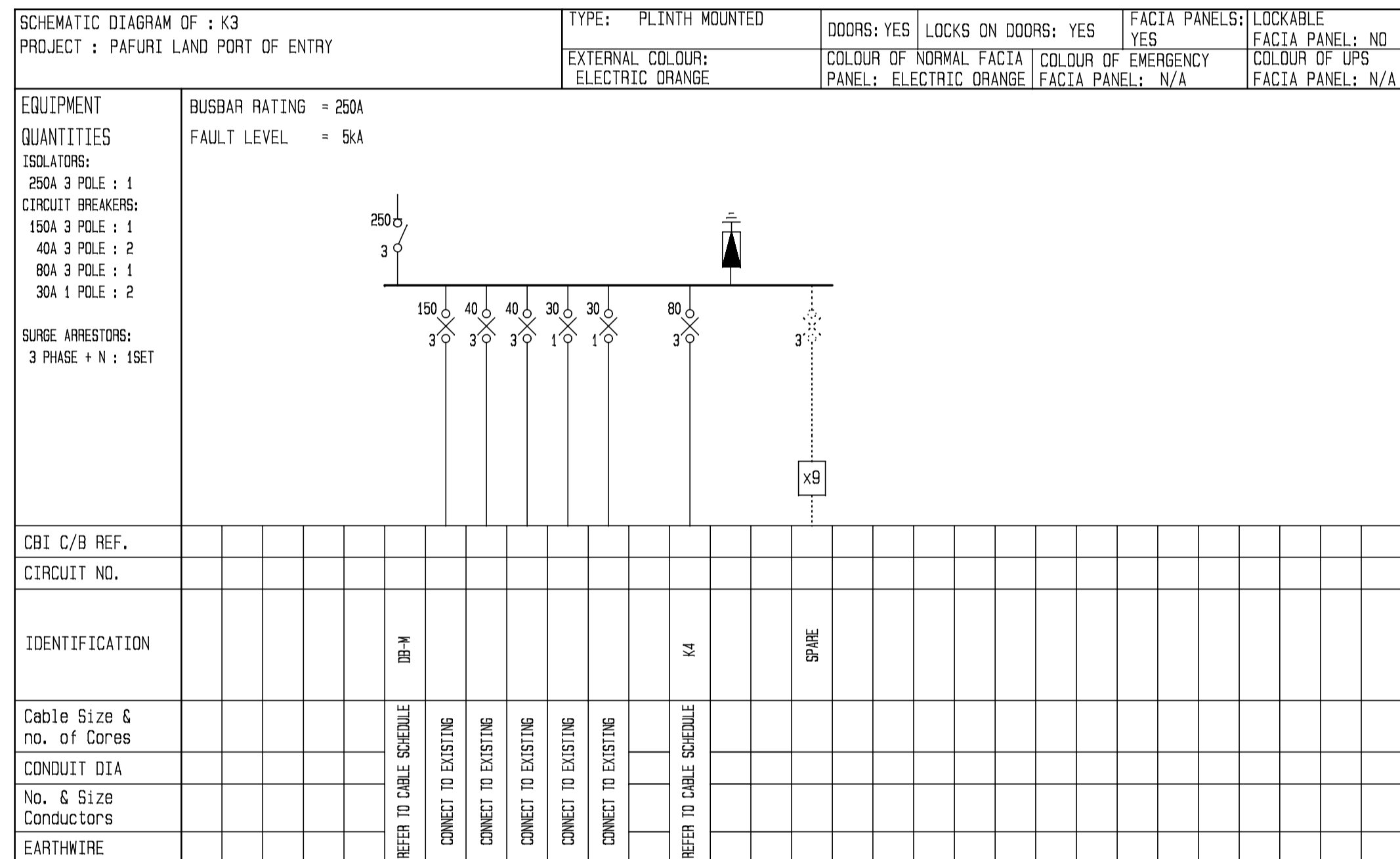
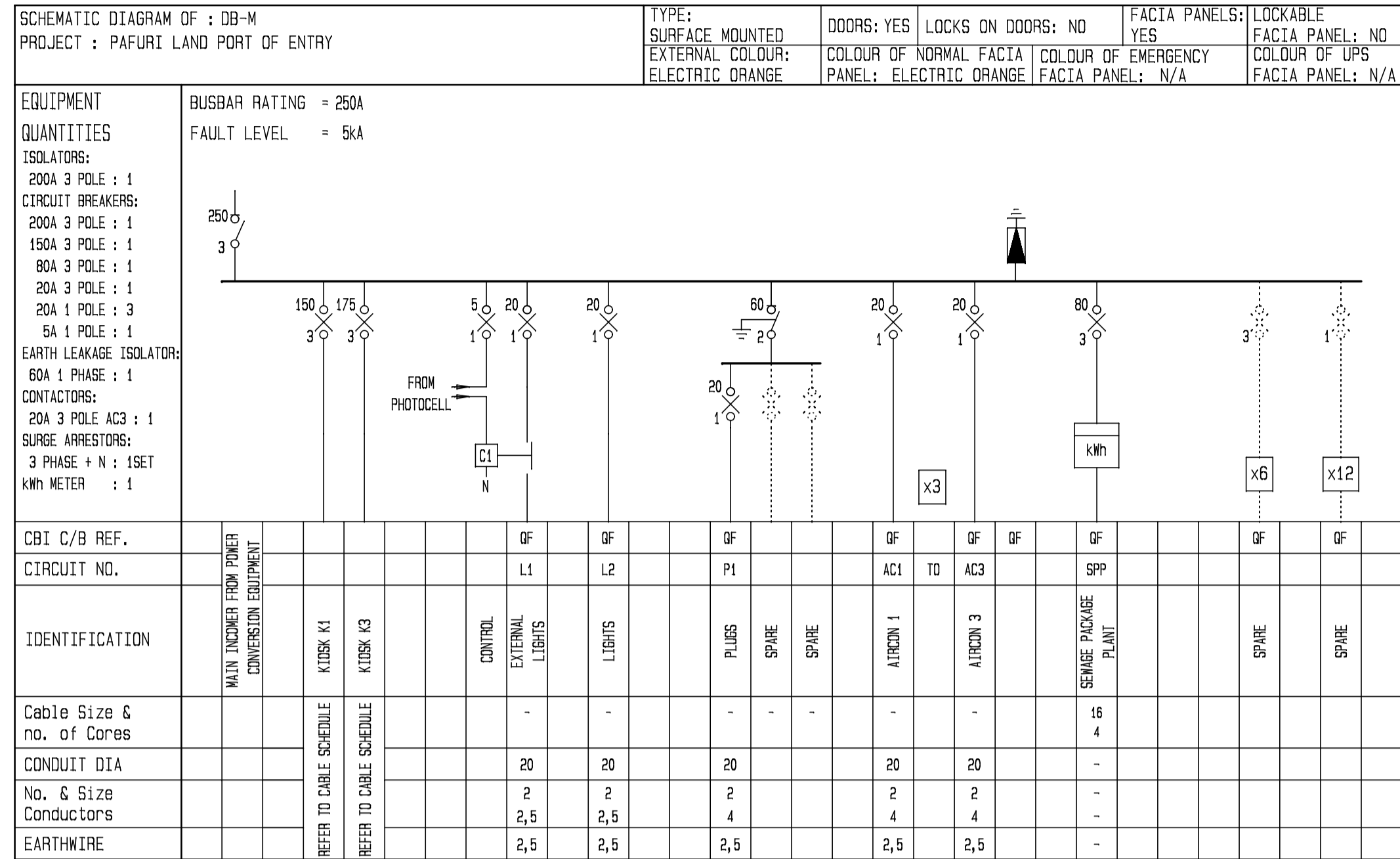
drawing title: ENERGY STORAGE AND EQUIPMENT ROOM: ELECTRICAL INSTALLATION

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 scale: SHOWN drawn Draftplan
 date: 20 / 06 / 2014 checked M de KOCK
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ENERGY STORAGE AND EQUIPMENT ROOM EQUIPMENT LAYOUT 1:50





SCHEMATIC DIAGRAM SYMBOL LIST	
SYMBOL	DESCRIPTION
	BUSBAR
	ISOLATOR WITH RATING AND No OF POLES
	CIRCUIT BREAKER WITH RATING AND No OF POLES
	EARTH LEAKAGE ISOLATOR WITH RATING AND No OF POLES
	CONTACTOR
	SURGE ARRESTOR
	DOTTED LINES INDICATES SPARES / FUTURE EQUIPMENT

No.	DATE	AMENDMENT	D.P.W.
A2	02-11-17	SCHEMATIC DIAGRAMS REVISED	M de KOCK
A3	19-06-19	DB-M & K3 REVISED. K4 ADDED	M de KOCK
A4	14-08-23	PROJECT DESCRIPTION REVISED	CJ LOURENS

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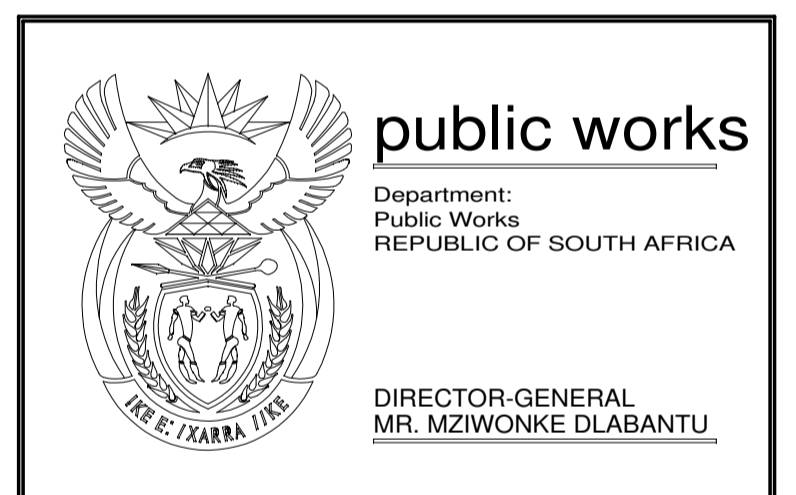
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service
PAFURI LAND PORT OF ENTRY (LPOE):
SUPPLY AND INSTALLATION OF SOLAR PANEL AND WASTE WATER FACILITY

WCS number
052476

drawing title
SCHEMATIC DIAGRAMS

ref.no. 6022/0079/20B	designed M de KOCK
scale NTS	drawn Draftplan
date 20 / 06 / 2014	checked M de KOCK
DPW drawing number	

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Approved by Design Leader
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Professional Engineer
ECSA : 780325