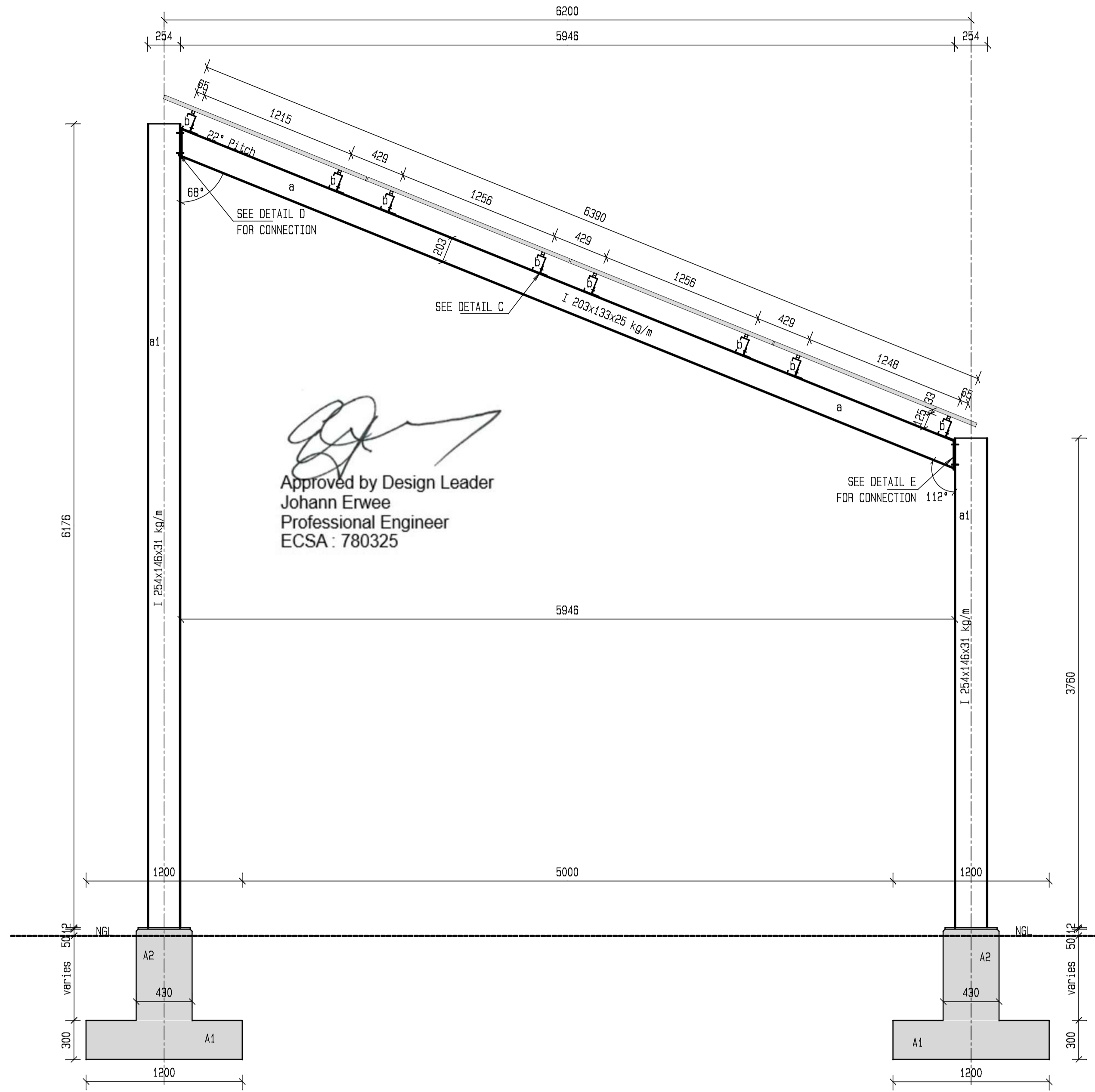
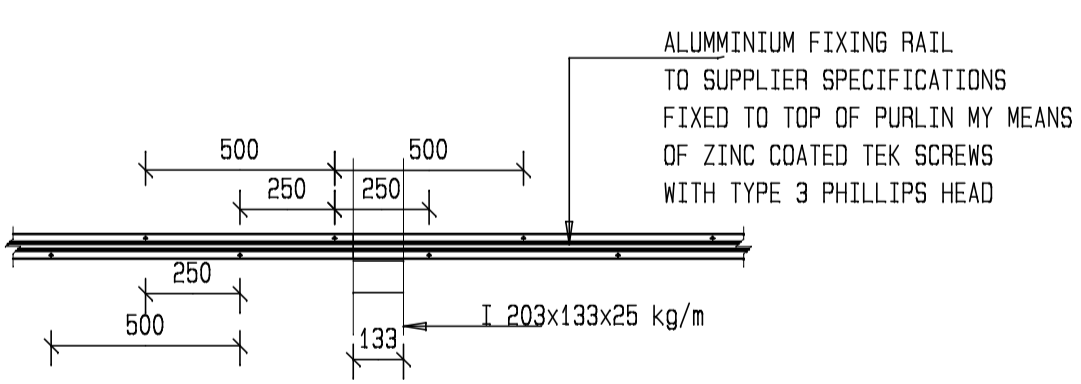


STRUCTURE TYPE E (10 OFF)  
SCALE 1:25

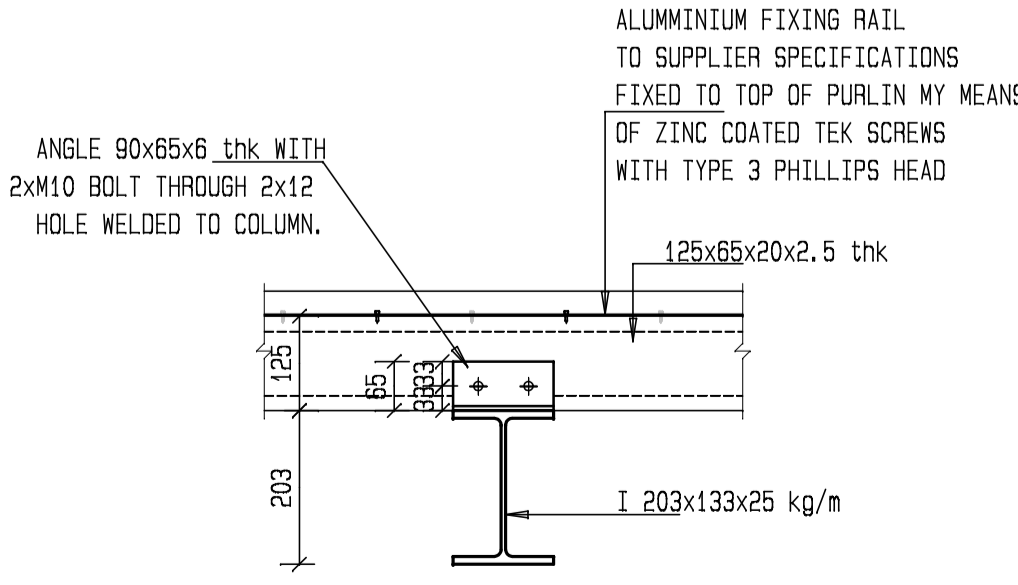


STRUCTURE TYPE F (12 OFF)  
SCALE 1:25

Approved by Design Leader  
Johann Erwee  
Professional Engineer  
ECSA : 780325



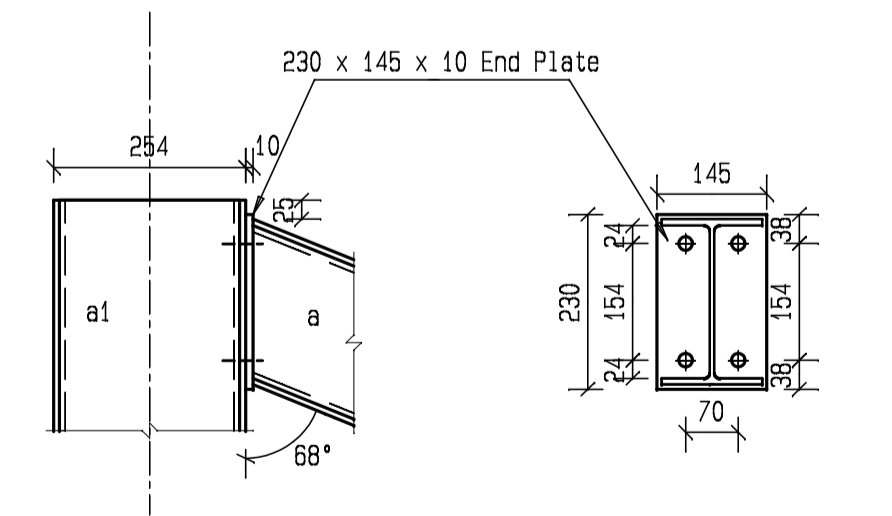
ALUMINIUM FIXING RAIL  
FIXING DETAIL  
SCALE 1:20



DETAIL C  
SCALE 1:10

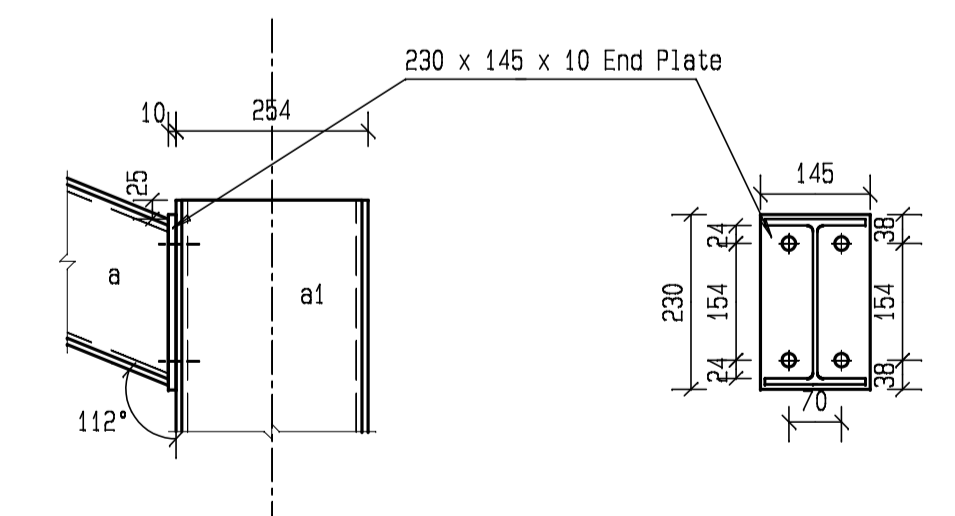
- STRUCTURAL STEELWORK:**
- The structure is designed for loading conditions in accordance with SABS 0160:1993 for the following maximum loads:  
Nominal permanent load : 0.5 KN/m<sup>2</sup> (exclusive of self weight of structure)  
Nominal imposed load : 2 KN/m<sup>2</sup>
  - All structural steel to be grade 350W steel with a min yield stress of 350 MPa, to SANS 1431
  - Fabrication and erection shall be done in accordance with SABS 1200 H Standard Building Regulations, Chapter 6.
  - Minimum 6mm continuous welds shall be used unless otherwise stated
  - All structural steel, holding down bolts, nuts & washers to be 275 g/m<sup>2</sup> Hot-dipped Galvanized to SANS 121
  - Steelwork below ground level must be painted with two layers approved bitumen paint.

- A1 - 1200x1200x400 THICK CLASS 25/19 R.C BASE CASTED ON A 50mm THICK 15MPa BLINDING LAYER
- A2 - 430x330 STUB COLUMN
- a = I 203x133x25 kg/m
- a1 = I 254x146x31 kg/m
- b = 125x65x20x2.5 mm COLED FORM LIPPED CHANNEL ROOF PURLIN.
- CLEAT: ANGLE 90x65x6 thk WITH 2xM10 BOLT THROUGH 2x12 HOLE WELDED TO COLUMN.



All welds are Both Sides unless otherwise indicated  
All bolts are of Grade 8.8  
All bolt diameters are 16 mm

DETAIL D  
SCALE 1:10



All welds are Both Sides unless otherwise indicated  
All bolts are of Grade 8.8  
All bolt diameters are 16 mm

DETAIL E  
SCALE 1:10

No.	DATE	AMENDMENT	D.P.W.
A2	09-06-19	STRUCTURE TYPE E & F 'NO OFF' REVISED	E.E

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S10492/600/6/A2	A 1

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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  
**STRUCTURE TYPE E & F  
DETAILS**

ref.no. 6022/0079/20B designed J.P

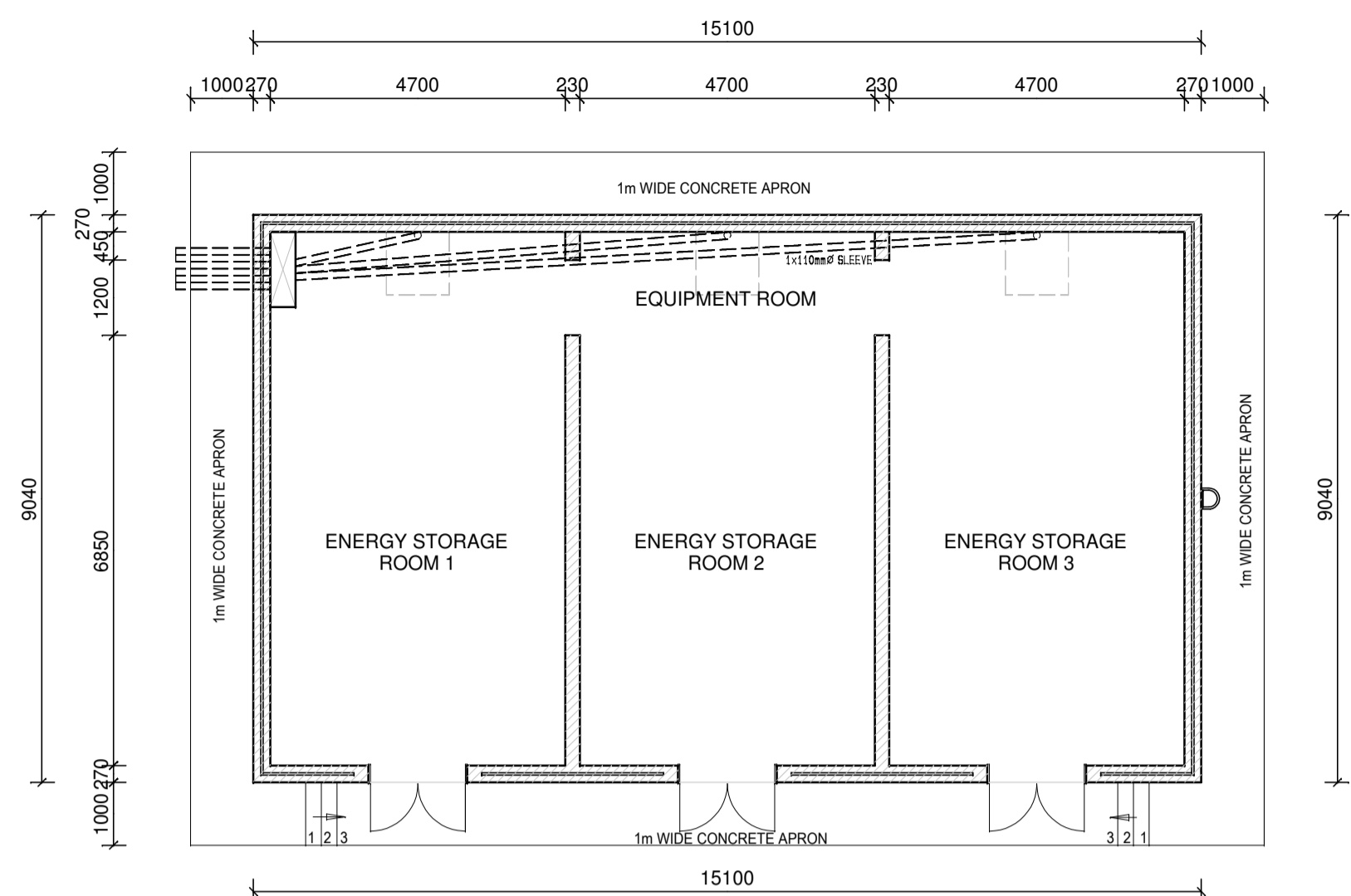
scale AS SHOWN drawn E.E

date 25 / 03 / 2014 checked J.P

DPW drawing number

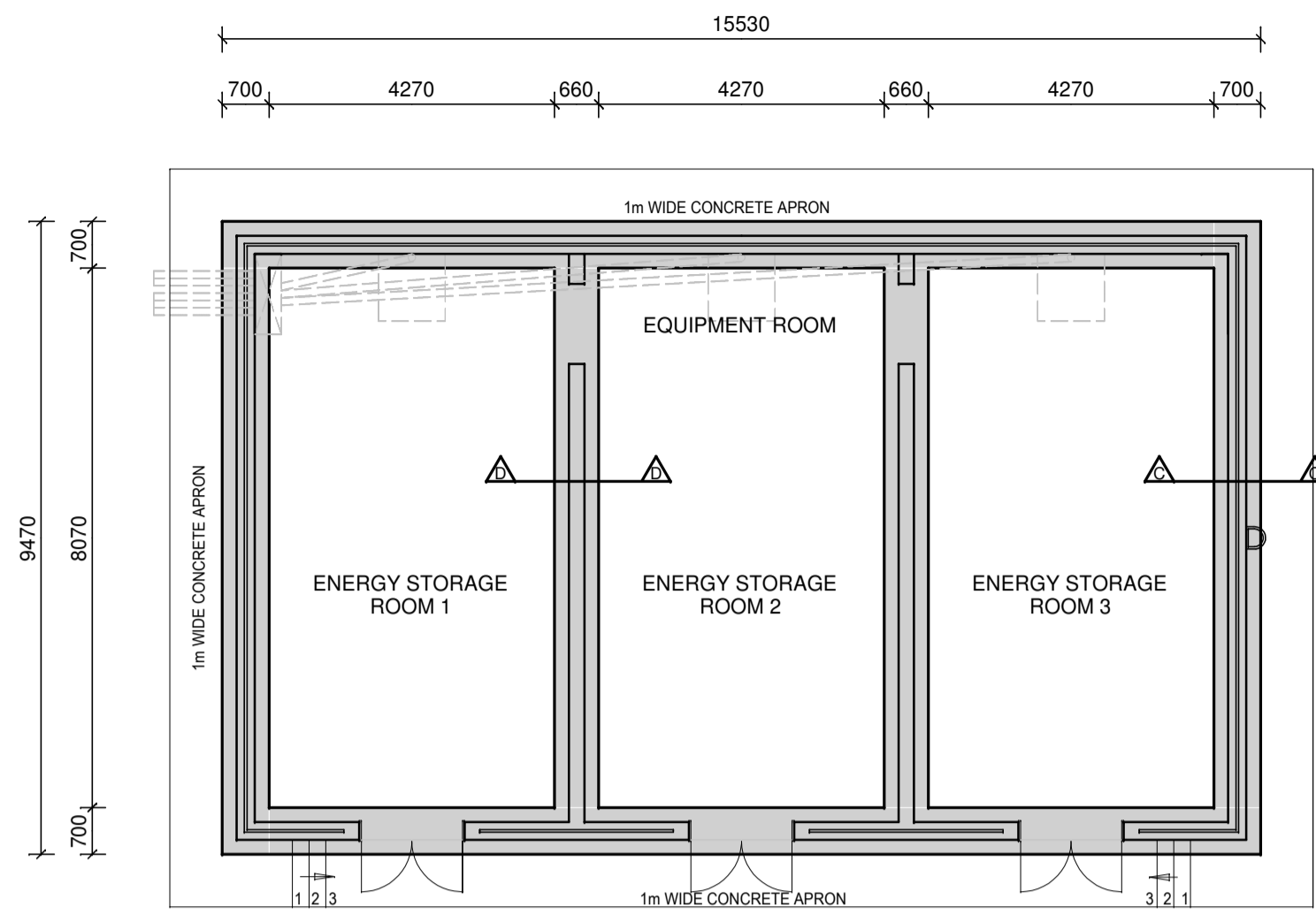
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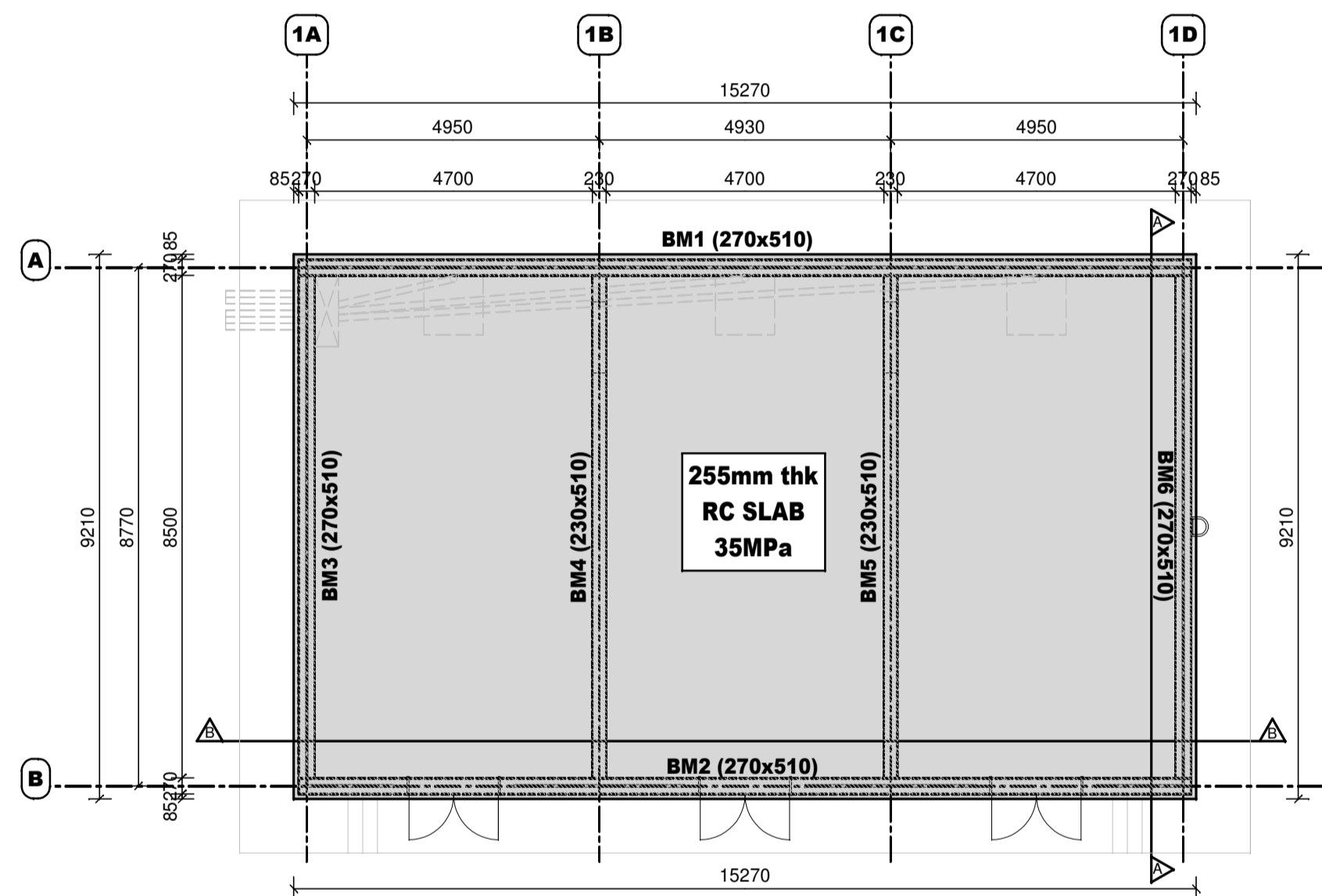


ENERGY STORAGE & EQUIPMENT ROOM FLOOR PLAN  
SCALE 1:100

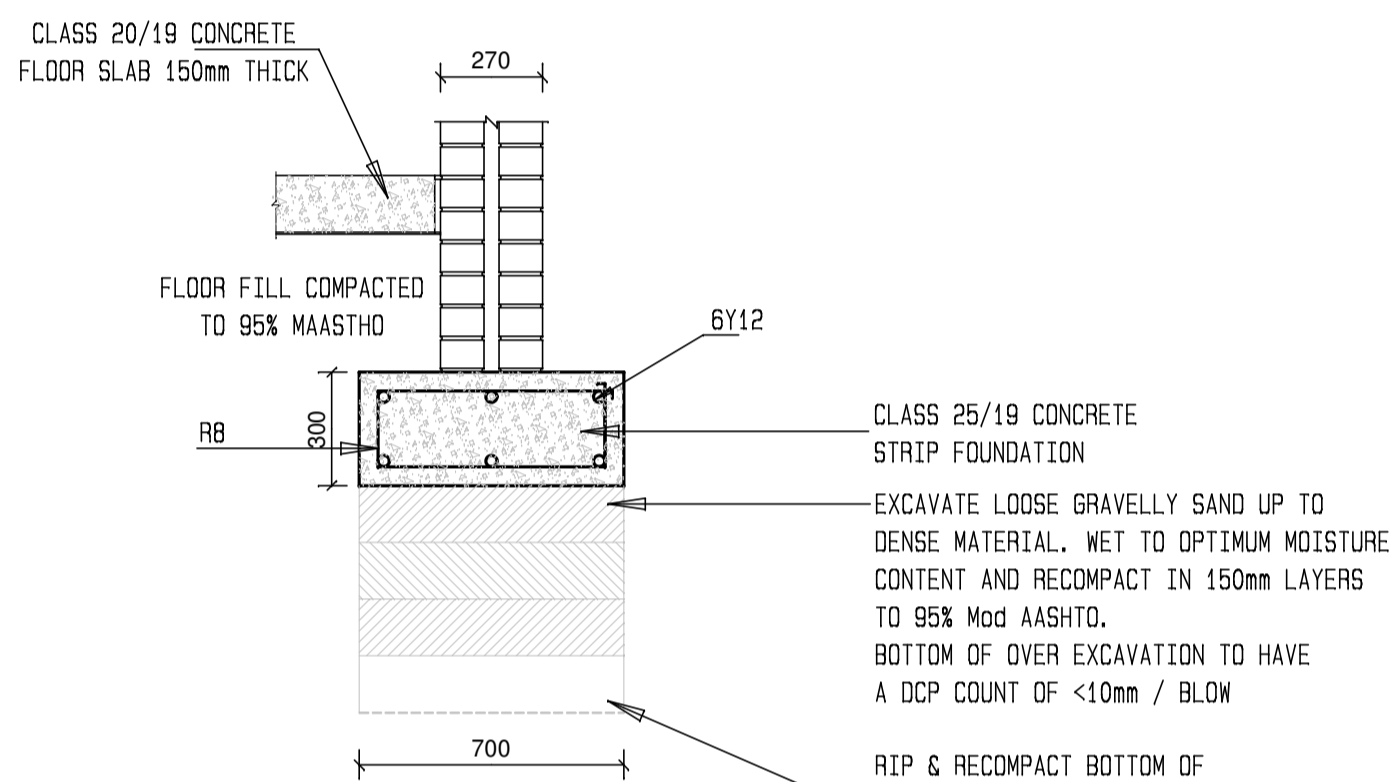
Approved by Design Leader  
Johann Erwee  
Professional Engineer  
ECSA : 780325



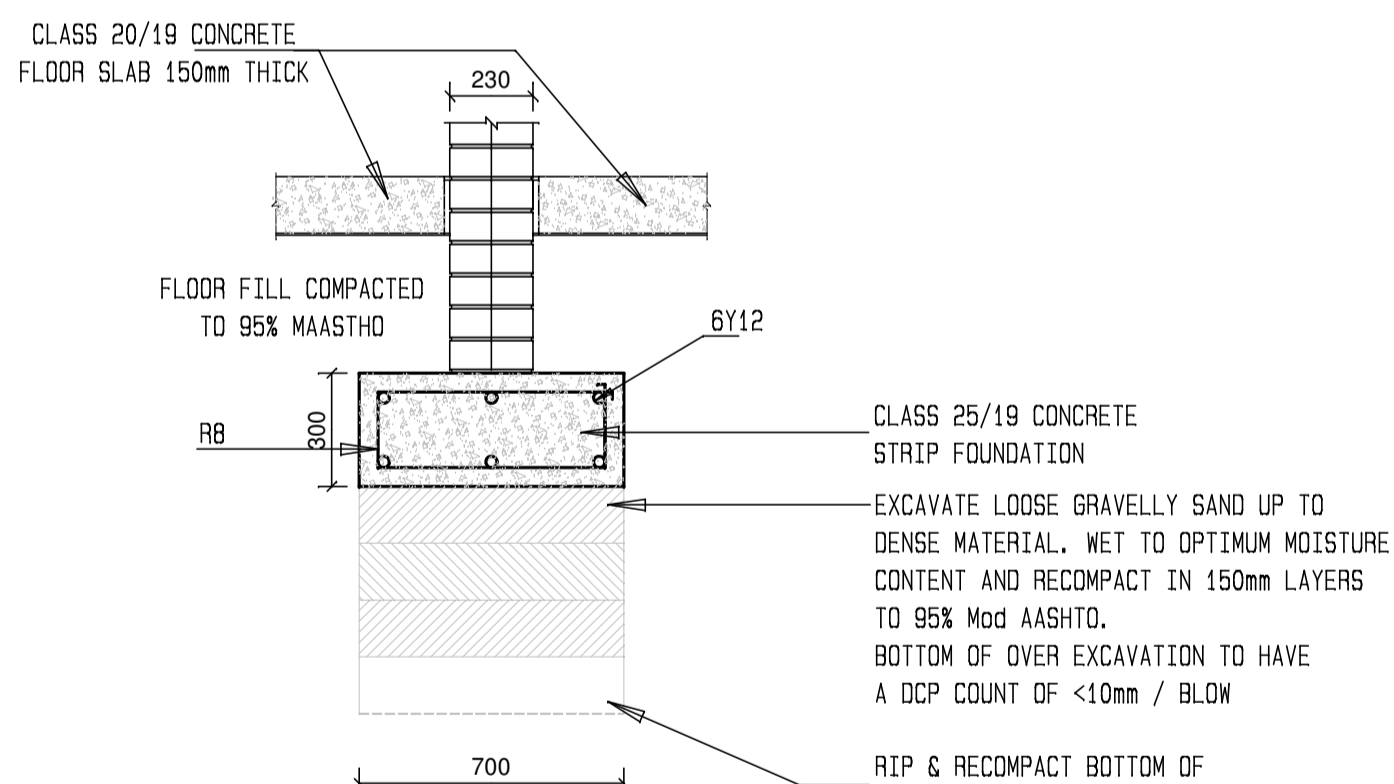
FOUNDATION LAYOUT PLAN  
SCALE 1:100



ENERGY STORAGE & EQUIPMENT ROOM ROOF SLAB & BEAM LAYOUT  
SCALE 1:100

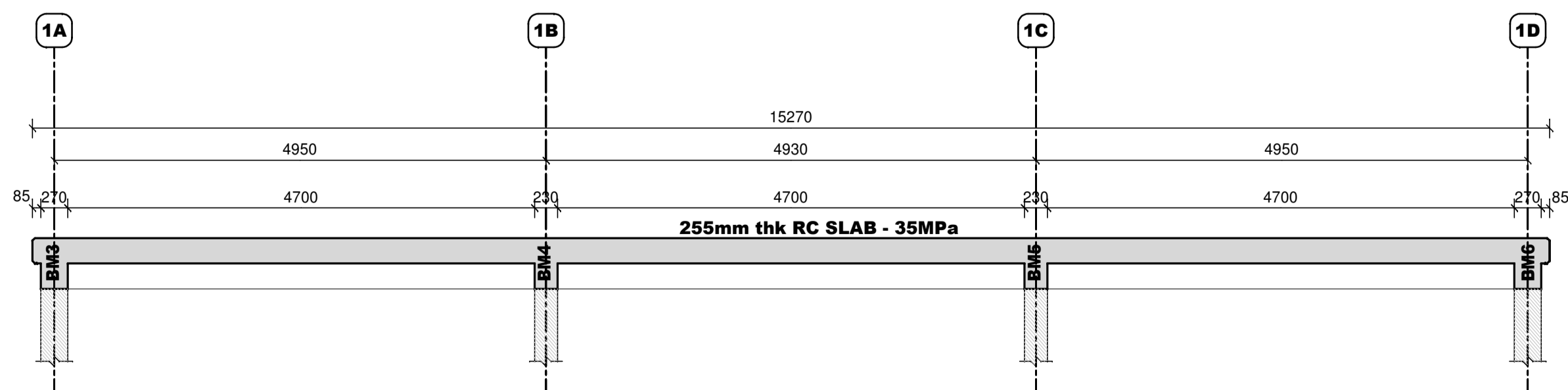


SECTION D-D STRIP FOUNDATION  
700 x 300  
SCALE 1:20

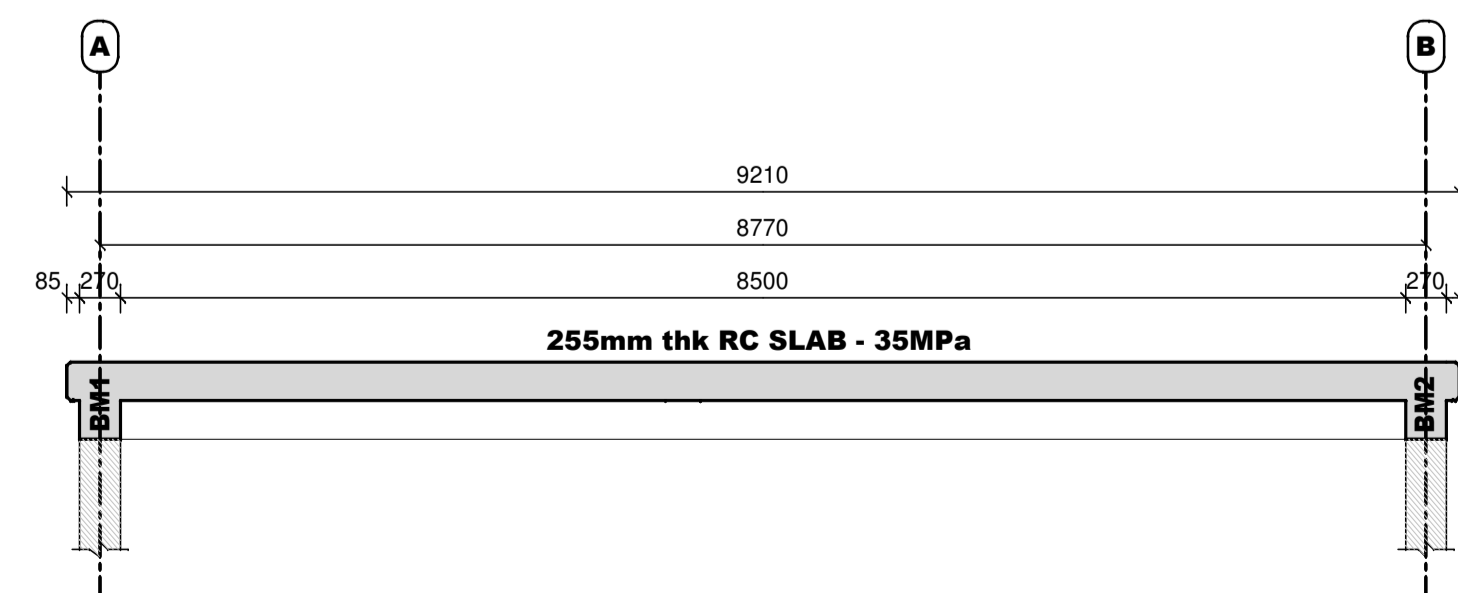


SECTION D-D STRIP FOUNDATION  
700 x 300  
SCALE 1:20

- NOTES:
- GENERAL:
1. Read this drawing in conjunction with the Architect's drawings.
  2. All dimensions are in millimetres.
- FOUNDATIONS:
1. Safe bearing capacity of ground on founding level must exceed 200 kPa.
  2. The Engineer must approve all excavations for foundations prior to casting of any concrete.
  3. Provide a 50mm x 15MPa binding layer beneath all reinforced concrete bases.
- CONCRETE WORK:
1. Structural concrete work shall be done in accordance with SABS 1200 G.
  2. The Engineer must approve all reinforcement prior to casting of any concrete.
  3. Concrete must be cured for at least 7 days by preventing the evaporation of moisture from the concrete.
  4. Concrete mixes (28 days)
    - Blinding layer .....15 MPa
    - Foundations .....25 MPa
    - Columns .....30 MPa
    - Beams, Slabs .....30 MPa
    - Walls .....25 MPa
  5. Minimum concrete cover:
    - Foundations .....75mm
    - Columns .....40mm
    - Beams .....25mm
    - Slabs .....dia or 12mm
    - Walls .....dia or 12mm
  6. Only Ordinary Portland Cement will be used unless otherwise stated.
  7. Only 19mm coarse aggregate (stone) will be used unless otherwise stated.



SECTION B - B  
SCALE 1:50



SECTION A - A  
SCALE 1:50

No.	DATE	AMENDMENT	D.P.W.
A2	06-11-17	ENERGY STORAGE & EQUIPMENT ROOM LAYOUT REVISED	E.E
A3	06-03-19	FOUNDATION DETAIL REVISED	E.E

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cad file name: S10492/600/8/A3

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discipline: STRUCTURAL ENGINEERING SERVICES

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

WCS number: 052476

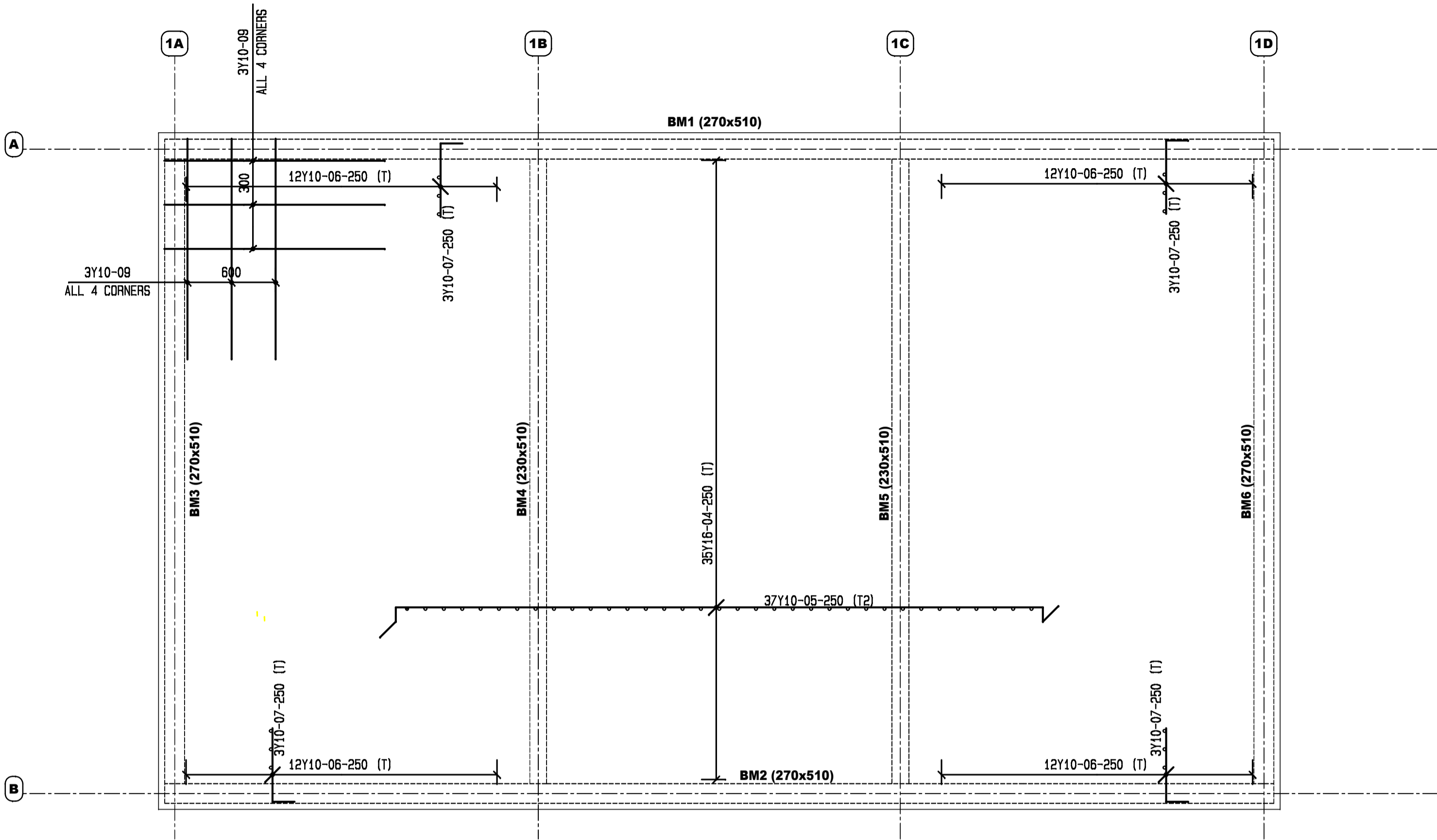
drawing title: ENERGY STORAGE & EQUIPMENT ROOM: ROOF SLAB & BEAMS FOUNDATION LAYOUT & SECTIONS

ref.no: 6022/0079/20B designed: J.P

scale: AS SHOWN drawn: E.E

date: 6 / 11 / 2017 checked: J.P

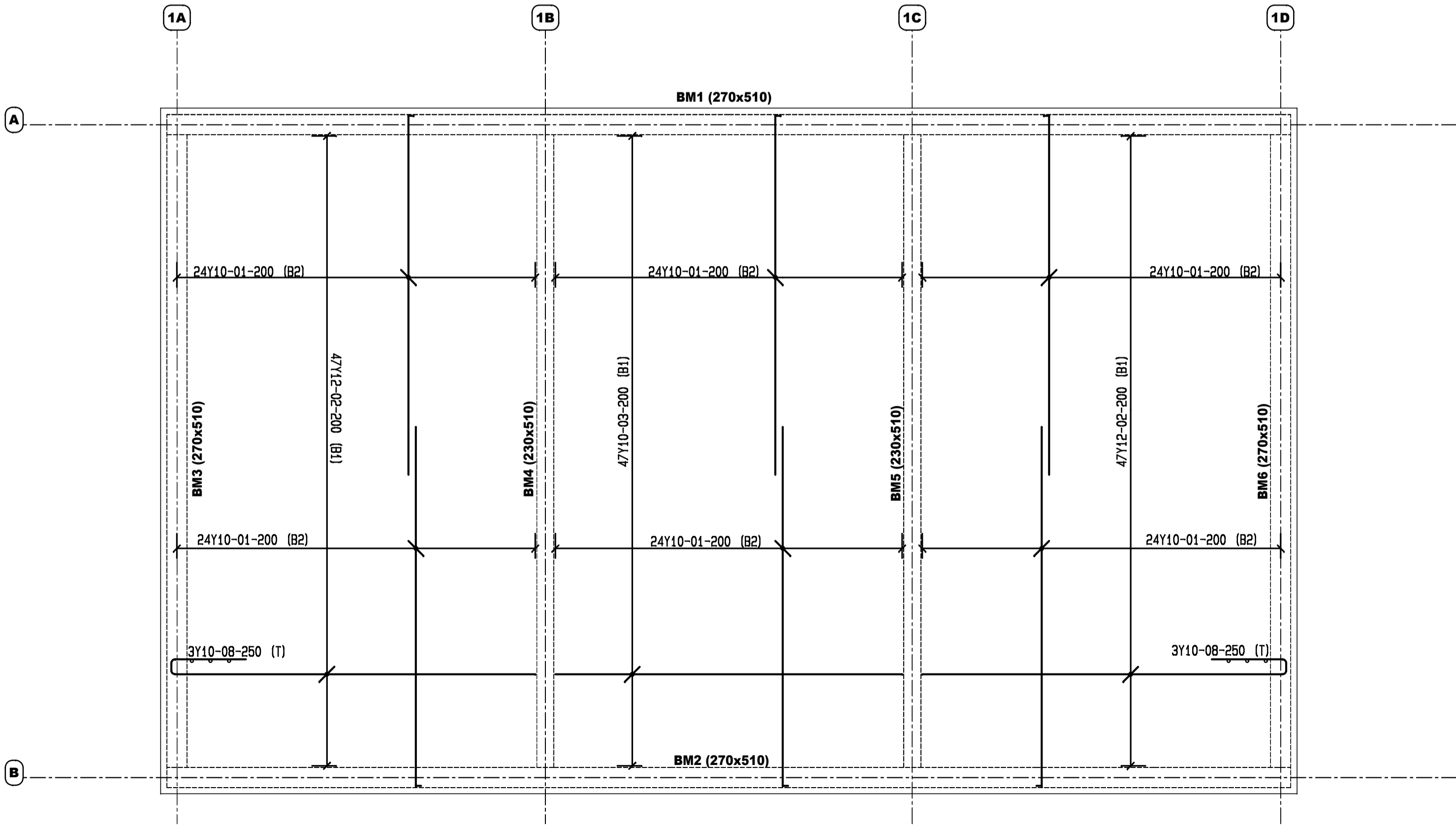
DPW drawing number: S10492/600/8/A3



ROOF SLAB - TOP REINFORCING  
SCALE 1:50

BENDING SCHEDULE											
MEMBER	NO. OF BARS	TYPE & Ø	MARK	CUTTING LENGTH	KODE	A	B	C	D	E	DISCRIP-TION
Slab 255thck 35MPa	144	Y10	1	4700	34	5800					
	94	Y12	2	6100	38	4950	200	1000			
	47	Y10	3	4700	20	4700					
	35	Y16	4	10150	83	9160	195	300	300		
	74	Y10	5	4800	20	4800					
	48	Y10	6	1300	37	300	1000				
	12	Y10	7	3250	20	3250					
	12	Y10	8	4800	20	4800					
	24	Y10	9	1500	20	1500					
	25	R 8	10	1300	83	300	195	300	300		

  
Approved by Design Leader  
Johann Erwee  
Professional Engineer  
ECSA : 780325



ROOF SLAB - BOTTOM REINFORCING  
SCALE 1:50

No.	DATE	AMENDMENT	D.P.W.
A2	09-11-17	REINFORCING REVISED	E.E

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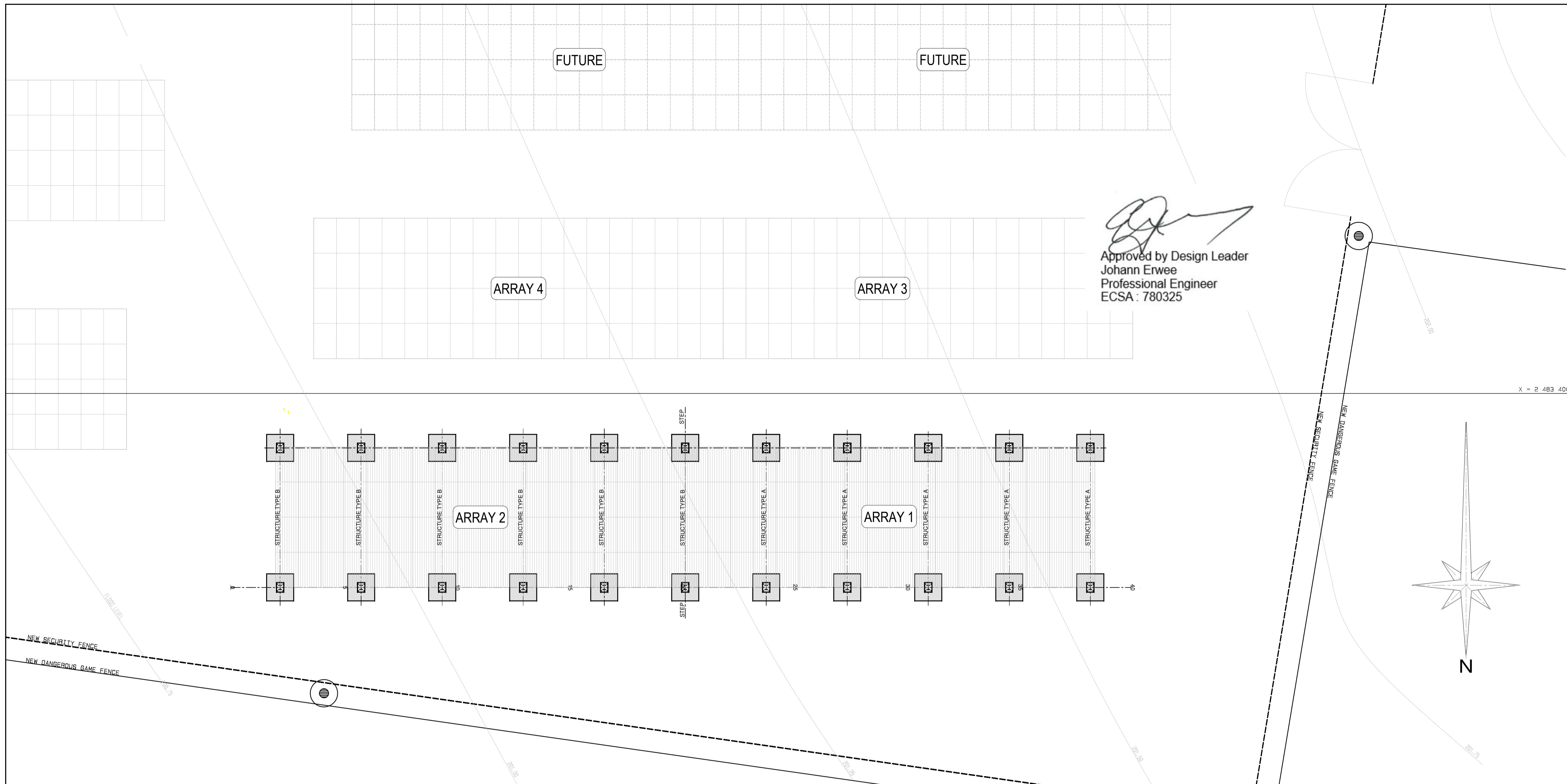
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service  
PAFURI LAND PORT OF ENTRY (LPOE):  
SUPPLY AND INSTALLATION OF SOLAR PANEL AND WASTE WATER FACILITY

WCS number: 052476

drawing title  
**ENERGY STORAGE & EQUIPMENT ROOM:  
ROOF SLAB & BEAMS  
REINFORCING LAYOUT**

ref.no: 6022/0079/20B designed: J.P  
scale: AS SHOWN drawn: E.E  
date: 25 / 03 / 2014 checked: J.P  
DPW drawing number: S10492/600/9/A2



No.	DATE	AMENDMENT	D.P.W.

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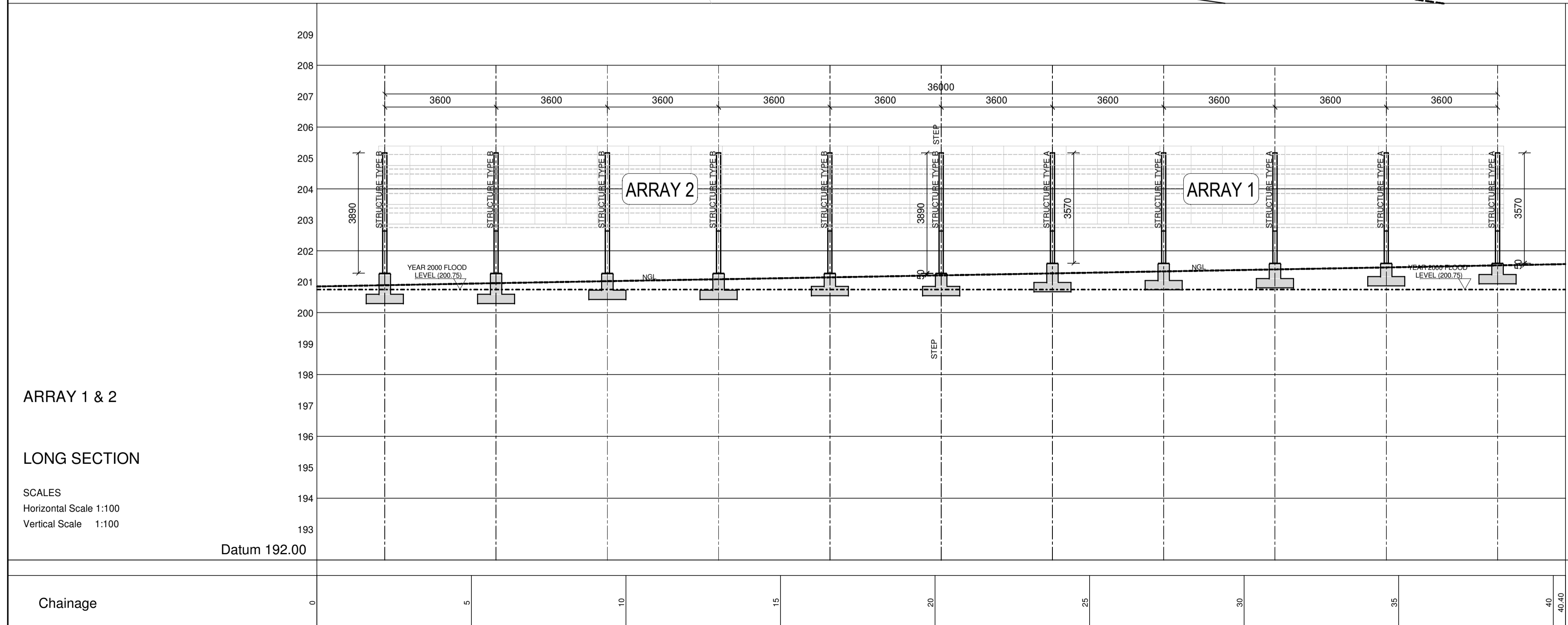
professional registration no.: \_\_\_\_\_

cad file name: S10492/600/10/A1 page type: A 1

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MR. MZIWONKE DLABANTU



- STRUCTURAL STEELWORK:**
- The structure is designed for loading conditions in accordance with SABS 0160:1993 for the following maximum loads;  
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Nominal imposed load : 2 KN/m<sup>2</sup>
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  - Steelwork below ground level must be painted with two layers approved bitumen paint.

consultant

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Elektriese Ingenieurs Electrical Engineers  
Reg No. 2003/12848/07

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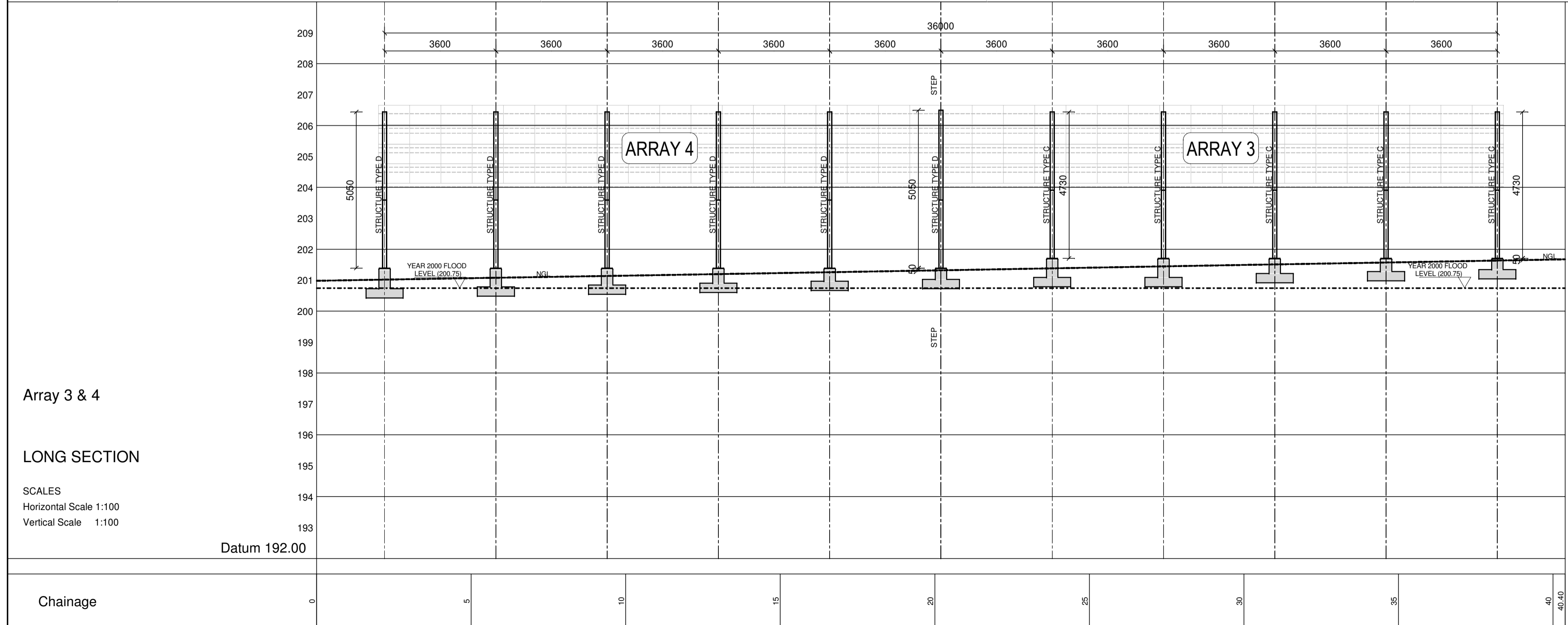
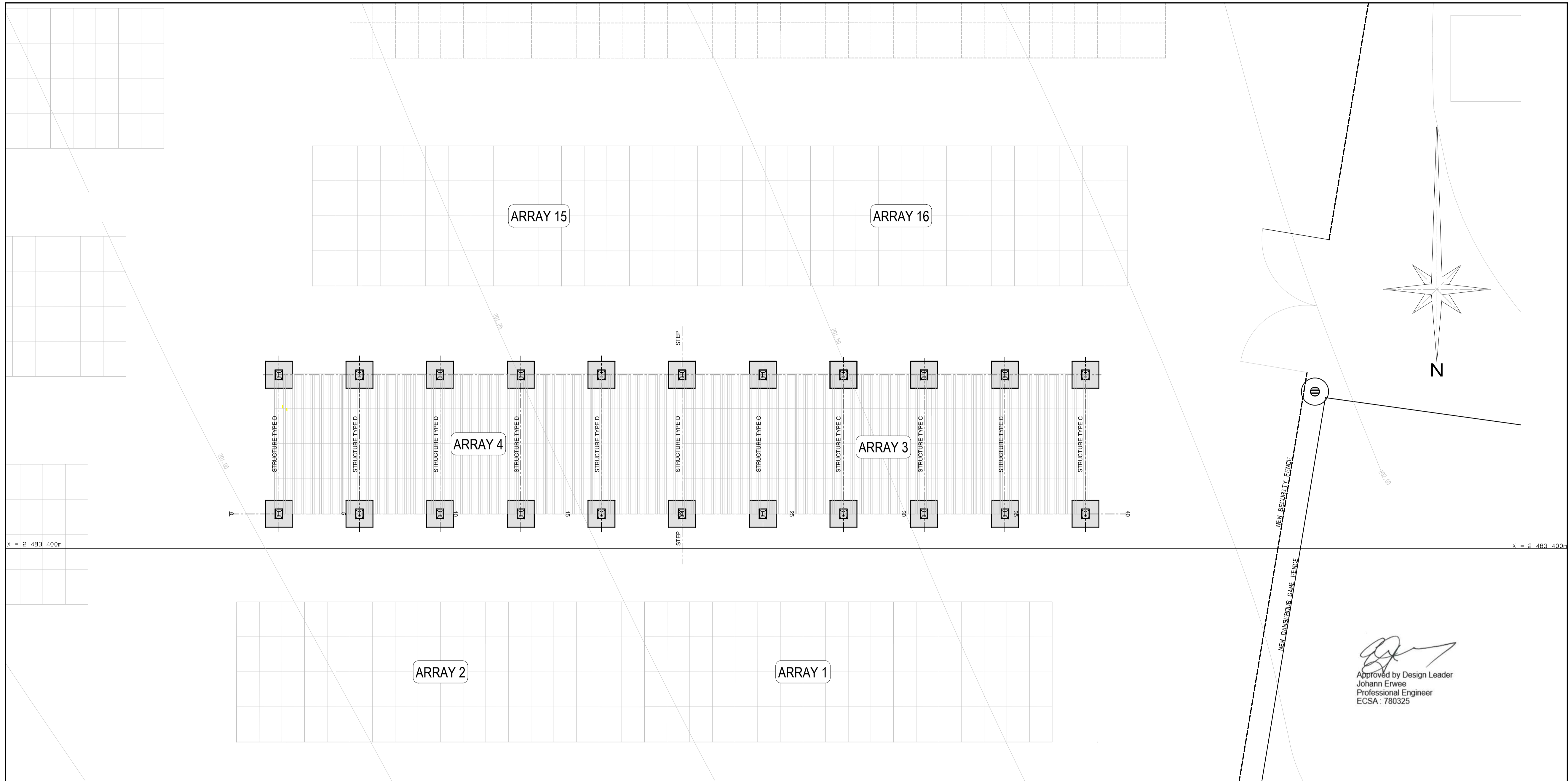
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service  
**PAFURI LAND PORT OF ENTRY (LPOE):  
SUPPLY AND INSTALLATION OF  
SOLAR PANEL AND WASTE WATER  
FACILITY**

WCS number **052476**

drawing title  
**DRAWING REGISTER**

ref.no. 6022/0079/20B designed J.P  
scale 1:100 drawn E.E  
date 25 / 03 / 2014 checked J.P  
DPW drawing number  
**S10492/600/10/A1**



- STRUCTURAL STEELWORK:**
1. The structure is designed for loading conditions in accordance with SABS 0160:1993 for the following maximum loads;  
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Approved by Design Leader  
 Johann Erwee  
 Professional Engineer  
 ECSA : 780325

No.	DATE	AMENDMENT	D.P.W.

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 SOLAR PANEL AND WASTE WATER  
 FACILITY**

WCS number  
**052476**

drawing title  
**ARRAY 3 & 4  
 LONGITUDINAL SECTION**

ref.no. 6022/0079/20B designed J.P.  
 scale AS SHOWN drawn E.E.  
 date 25 / 03 / 2014 checked J.P.  
 DPW drawing number  
**S10492/600/11/A1**