

งานระบบไฟฟ้าโครงการก่อสร้างโรงไฟฟ้าในภาคใต้ 5 MW

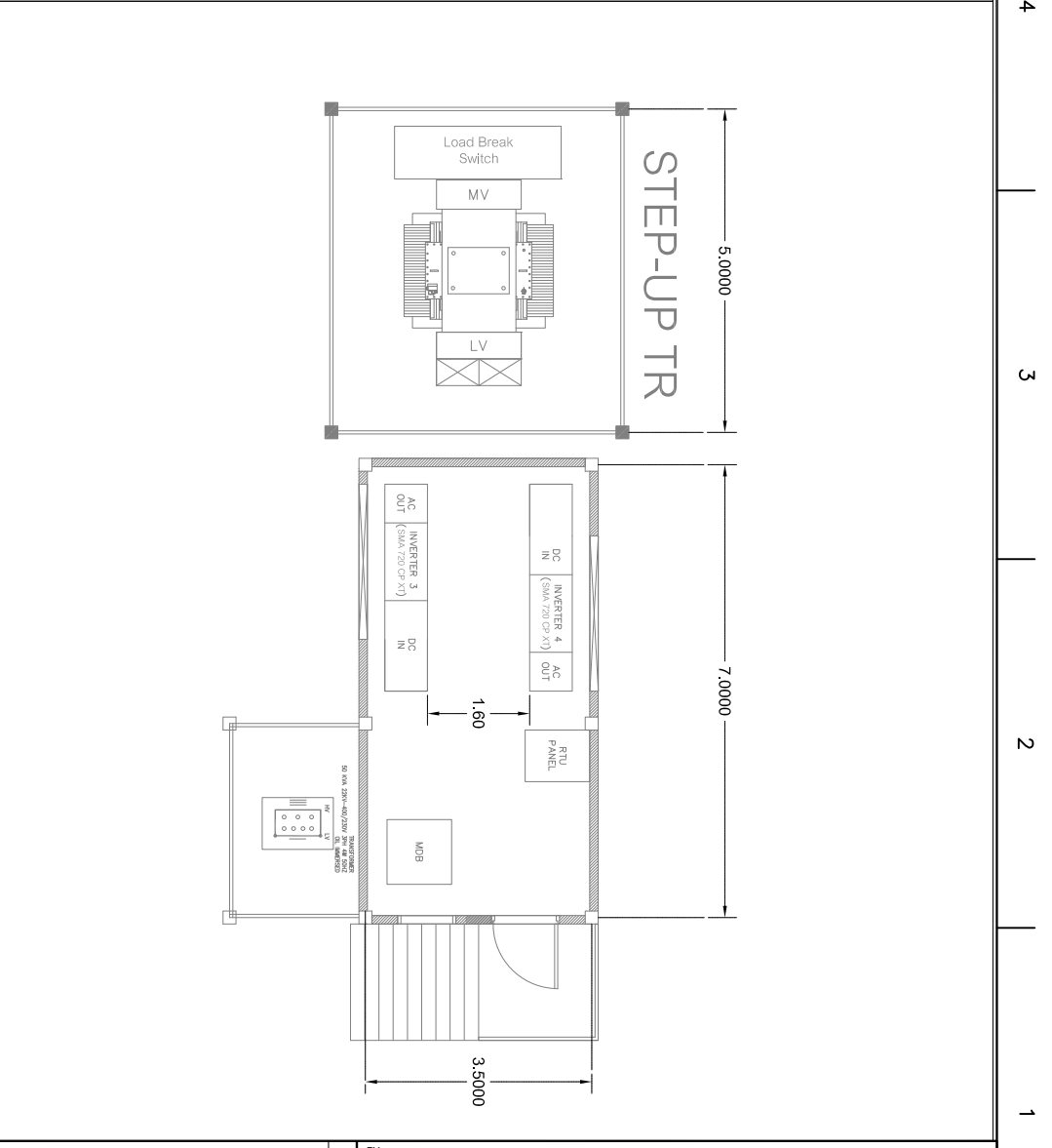
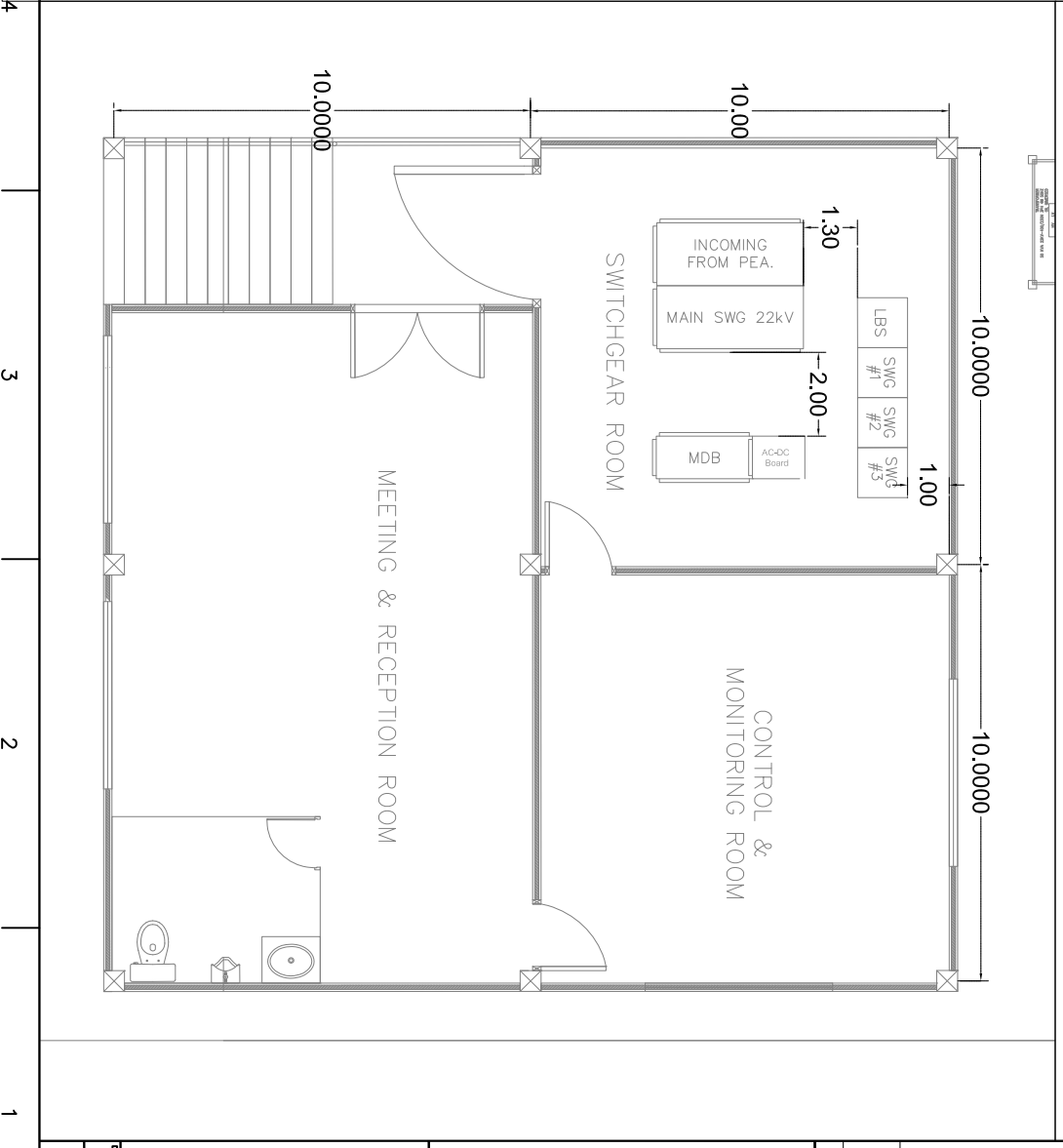
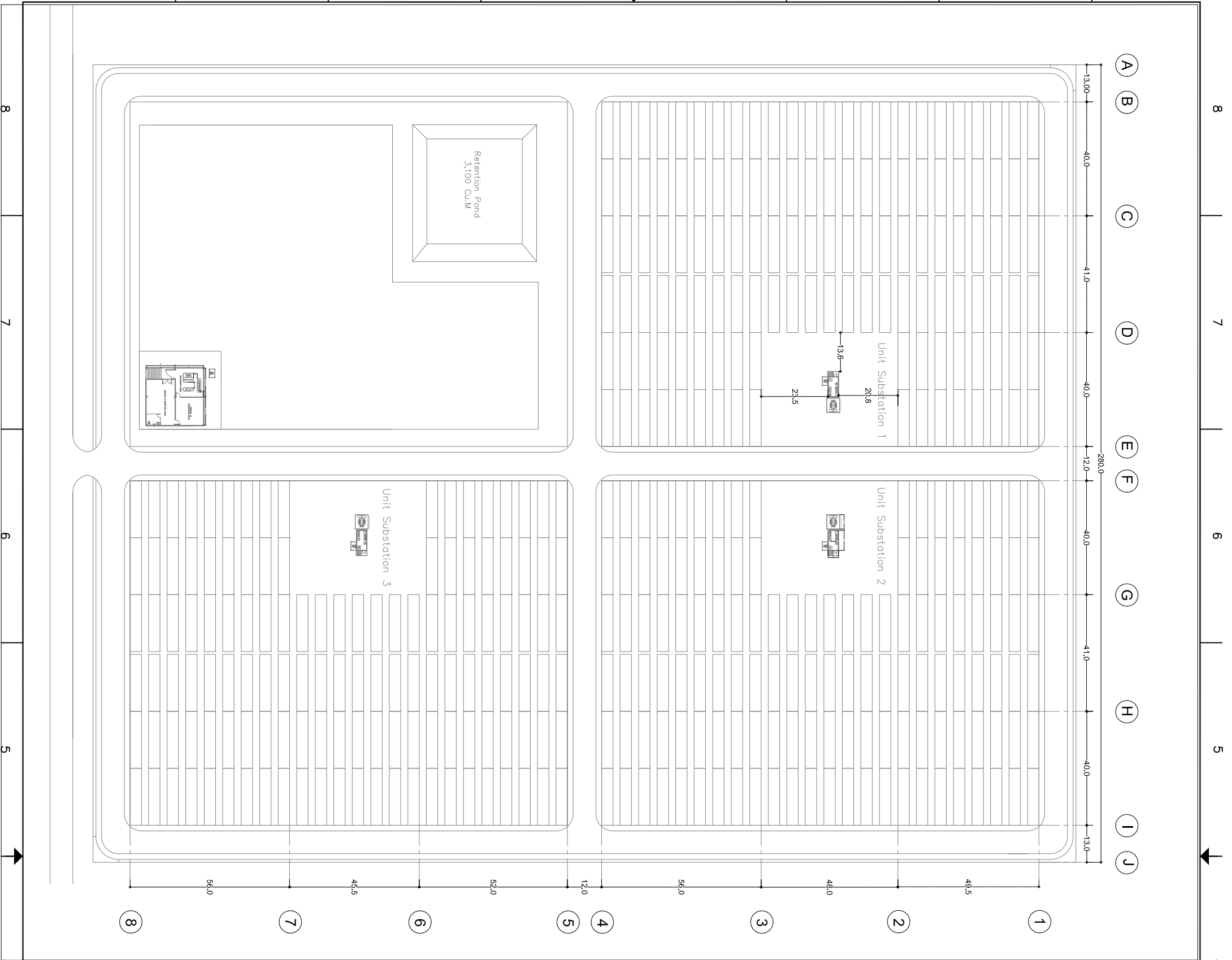
## LIST OF ELECTRICAL POWER SYSTEM DRAWINGS

DRAWING NO.	TITLE	REV#	DATE	REMARKS
E000	LIST OF DRAWINGS	2	25/05/16	
E001	Layout Plan	2	25/05/16	
E002	Routing Plan (Option 1)	2	25/05/16	
E003	MV Single Line Diagram (Option 1)	2	25/05/16	
E004	LV Single Line Diagram 1-3 (Option 1)	2	25/05/16	
E005	Typical String Wiring (Option 1)	2	25/05/16	
E006	Grounding System Plan (Option 1)	2	25/05/16	
E007	Typical Grounding System (Option 1)	2	25/05/16	
E008	Lighting Protection Plan (Option 1)	2	25/05/16	
E009	MV Single Line Diagram (Option 2)	2	25/05/16	
E010	LV Single Line Diagram 1-3 (Option 2)	2	25/05/16	

REV.	DATE	DESCRIPTION	BY
2	25/05/16	Detail Design (For Final Review)	TAP
1	03/23/16	DETAIL DESIGN(For Mentor Review)	TAP
0	22/12/15	PRELIMINARY (Project 1)	TAP

<b>Engineering Project 2</b>	
DATE: 25/05/16	APP'D BY:

<b>Drawing List</b>	
Engineering Project 2	
DATE: 25/05/16	SCALE: 2

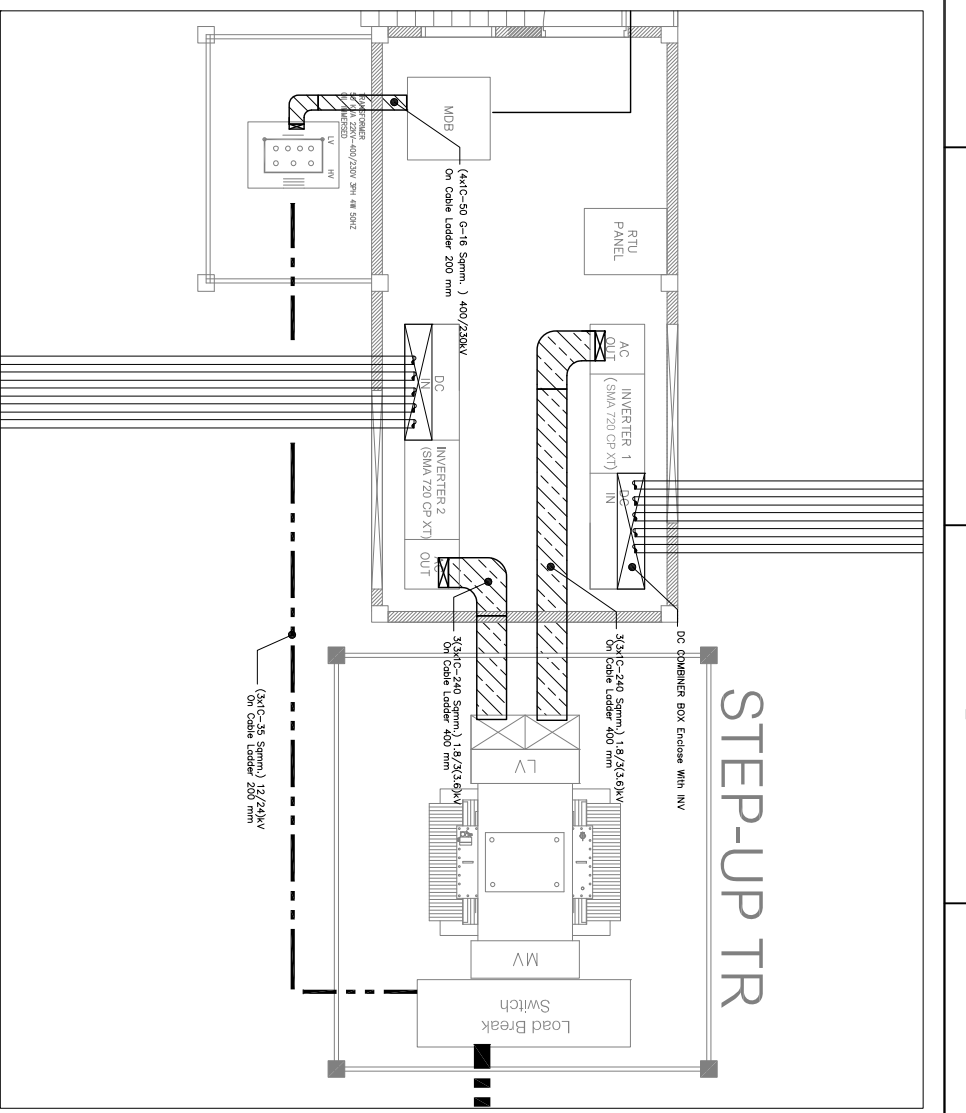
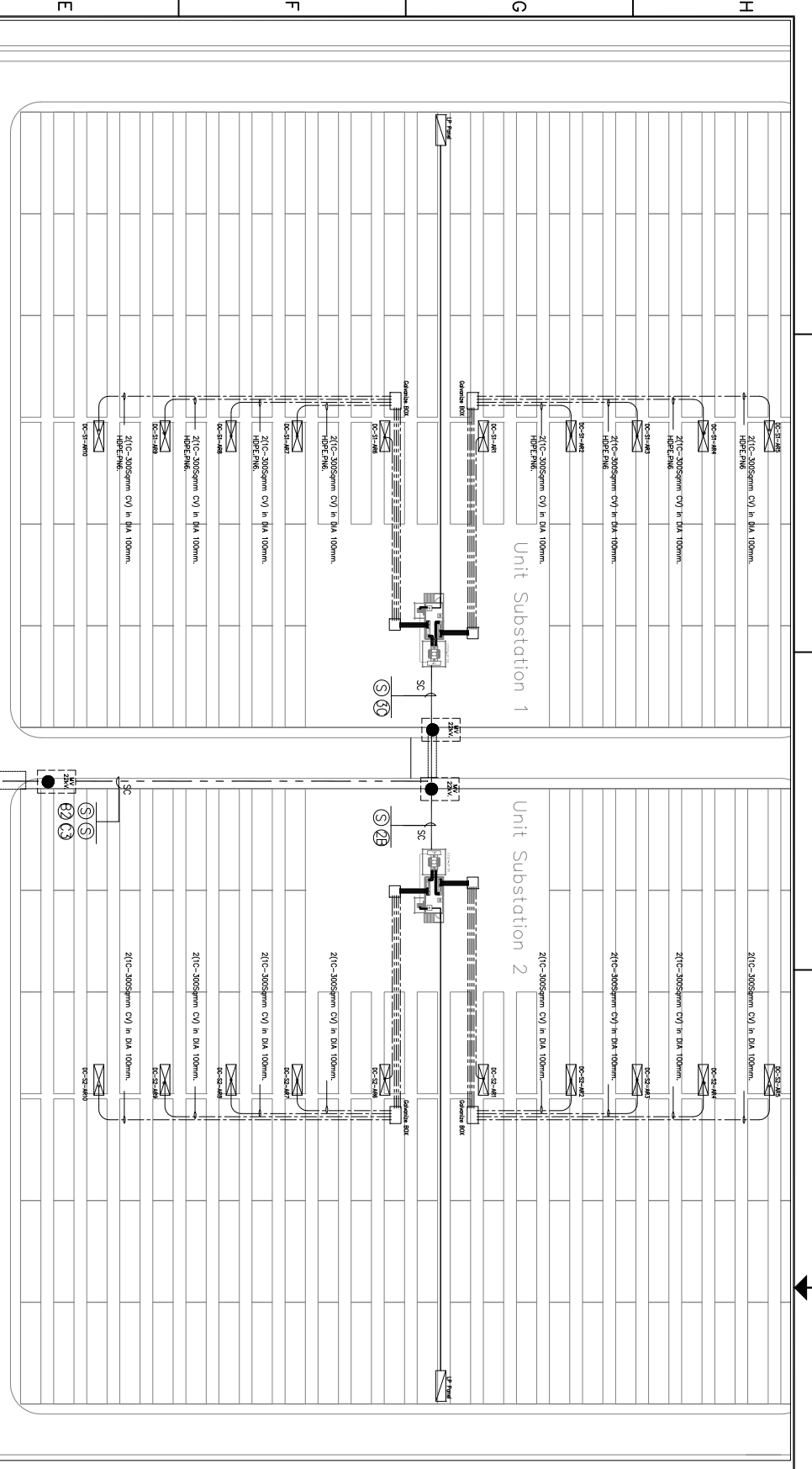


<b>LAYOUT PLAN</b>	
Engineering Project 2	
DATE: 25/05/16	SCALE: 2

<b>Engineering Project 2</b>	
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REV.	DATE	DESCRIPTION
2	25/05/16	Detail Design (For Final Review)
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0	22/12/15	PRELIMINARY (Project 1)

BY	TAP
BY	TAP
BY	TAP



**LEGEND :**

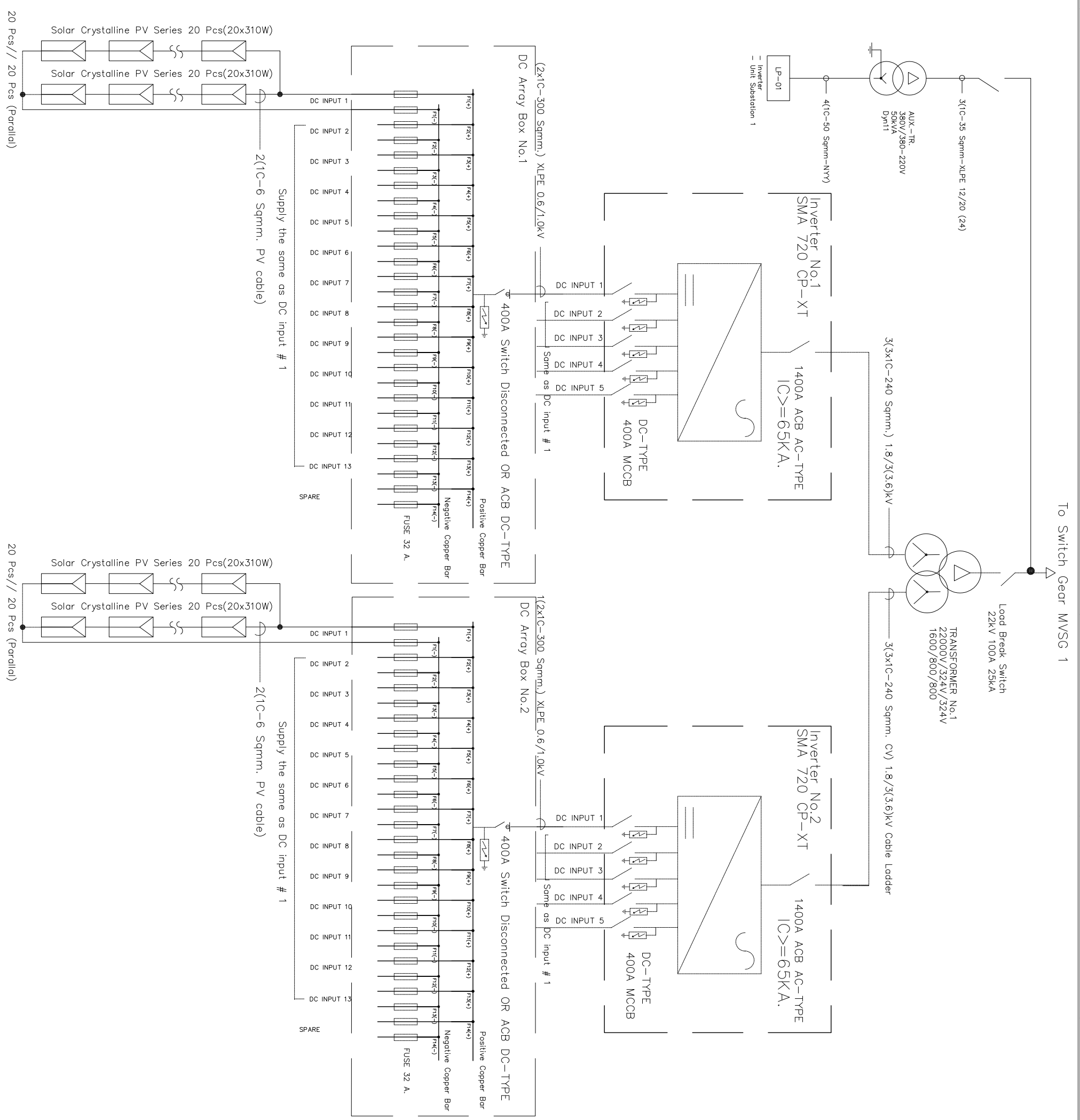
- MANHOLE FOR 22 KV UNDERGROUND (UG) CABLES
- SPARE DUCT
- CIRCUIT NO. FOR 33 KV UG. CABLE RUN IN DUCT BANK
- REINFORCED CONCRETE DUCTBANK
- SAND COMPACTED DUCTBANK
- AC 22 KV UNDERGROUND CABLES :
- DC CABLE IN HDPE 100 mm;
- AC LOW VOLT CABLE
- AC 22KV 185 Sqmm. Feeder from PEA
- Riser Pole with Load Break Switch SF6 TYPE

ITEM	MV CABLE SCHEDULE	CONDUIT
(A1) (B2) (C3)	3x1C, 50SQ.MM. XLPE With Shield,	Ø100MM. HDPE DUCTBANK
(S)	SPARE	Ø100MM. HDPE DUCTBANK

**TRUNKING LAYOUT PLAN**

<b>Routing Plan</b>		<b>Engineering Project 2</b>	
Engineering Project 2		Engineering Project 2	
DATE: 25/05/16	SCALE: 2	REV. 2	DATE: 25/05/16
DATE: 03/23/16	SCALE: 2	REV. 1	DATE: 03/23/16
DATE: 22/12/15	SCALE: 2	REV. 0	DATE: 22/12/15
DESCRIPTION: PRELIMINARY (Project 1)		DESCRIPTION: Detail Design (For Final Review)	
DESCRIPTION: DETAIL DESIGN (For Mentor Review)		DESCRIPTION: DETAIL DESIGN (For Mentor Review)	
DESCRIPTION: PRELIMINARY (Project 1)		DESCRIPTION: PRELIMINARY (Project 1)	





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## Engineering Project 2

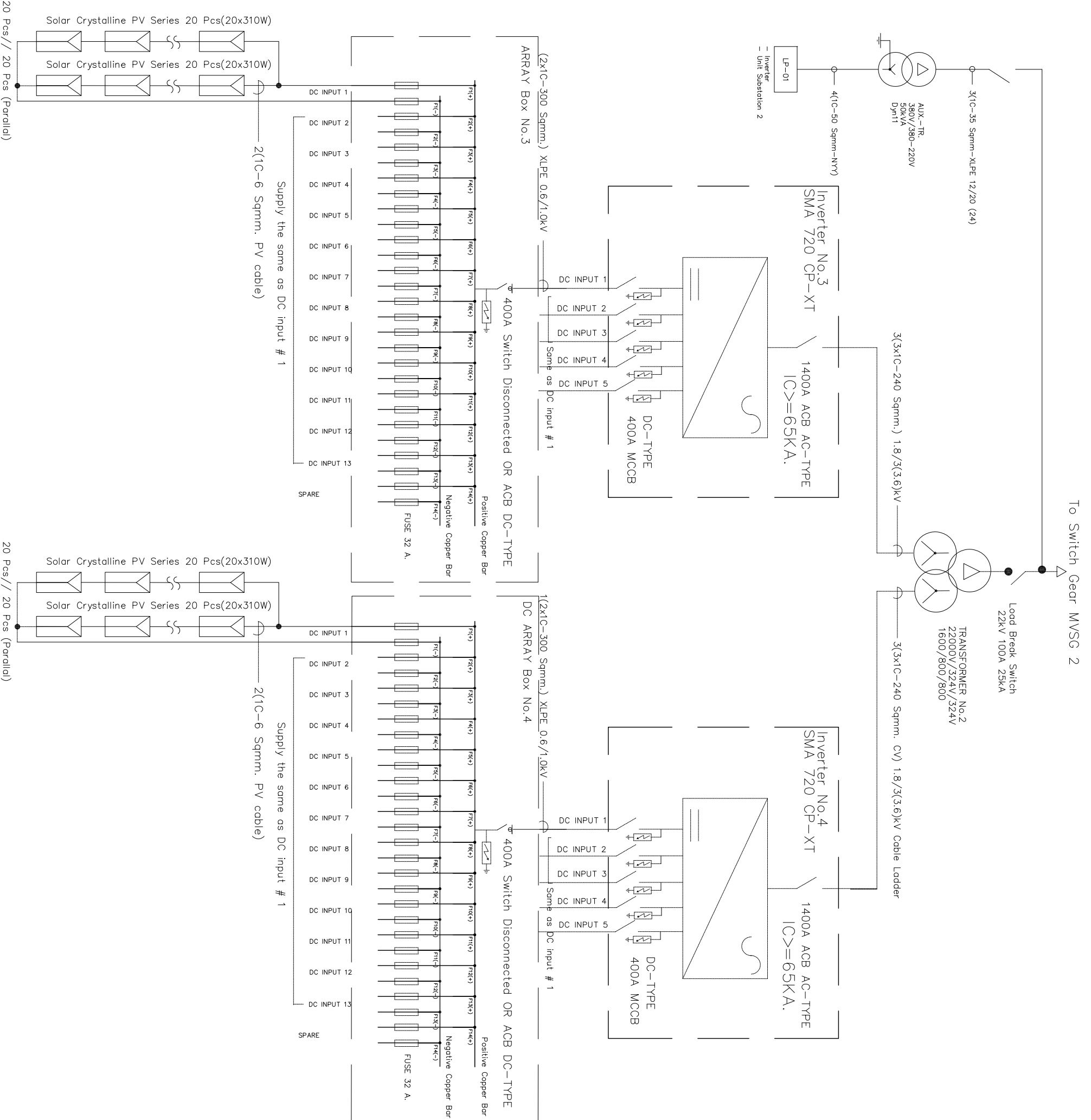
LV- Single Line Diagram 1/3

DATE	25/05/16
SCALE	2

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8 7 6 5 4 3 2 1

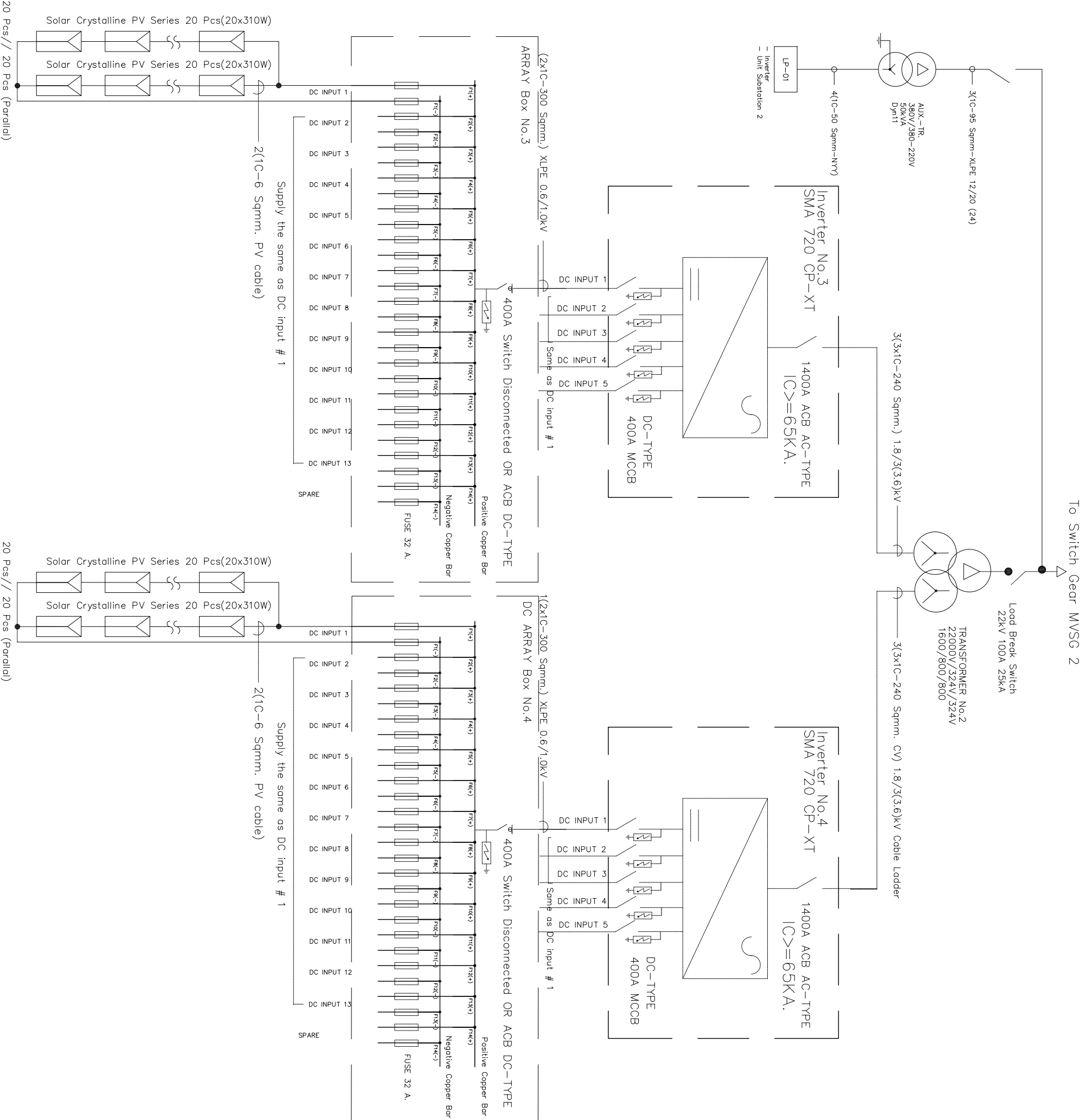
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Engineering Project 2

LV- Single Line Diagram 2/3	
Engineering Project 2	
DATE: 25/05/16	SCALE:
DRAWN BY: TAP	APP'D BY:
DATE: 25/05/16	SCALE:

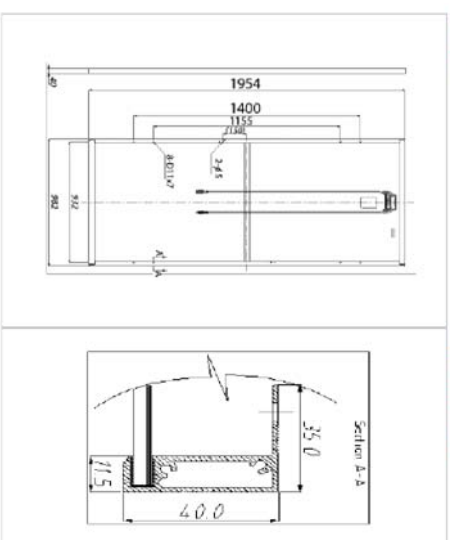
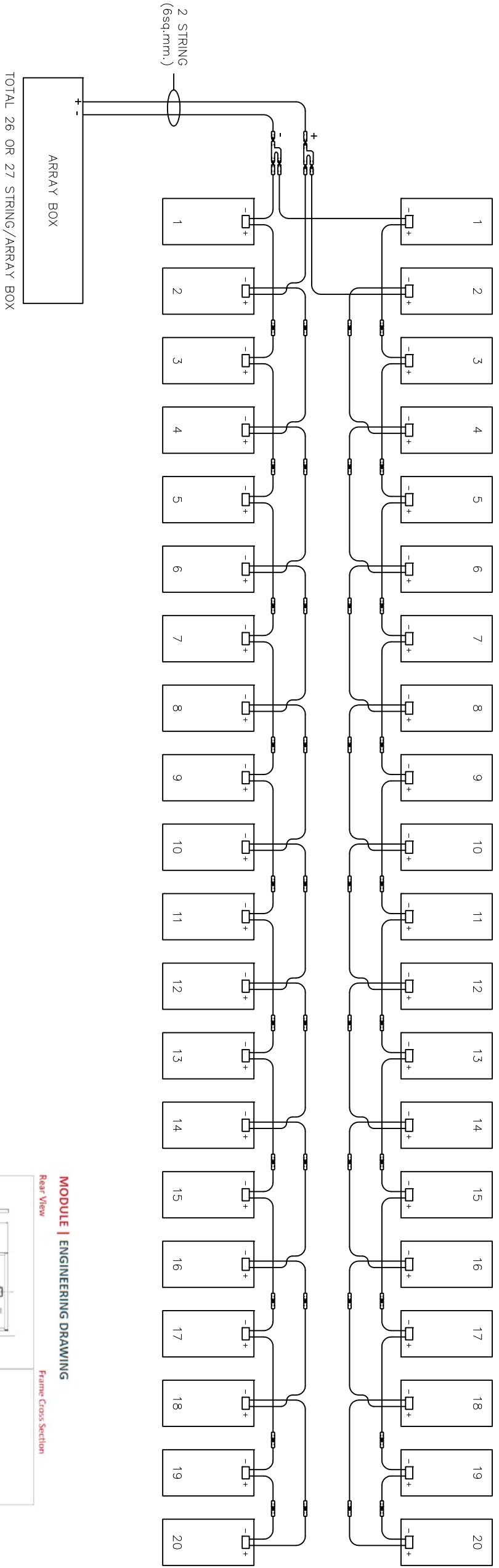


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Engineering Project 2

LV- Single Line Diagram 3/3	
Engineering Project 2	
DATE: 25/05/16	SCALE:
DRAWN BY: TAP	APP'D BY:
CHECKED BY:	DATE:





**MODULE | ENGINEERING DRAWING**  
Rear View  
Frame Cross Section

<b>String Wring</b>	
NAM PHONG THAILAND	
DATE: 02/06/15	REV: 2
DRAWN BY: TAP	CHK REF: TAP
DATE: 01/23/15	CHK REF: TAP
DATE: 01/16/15	CHK REF: TAP
DATE: 01/16/15	CHK REF: TAP
DATE: 01/16/15	CHK REF: TAP

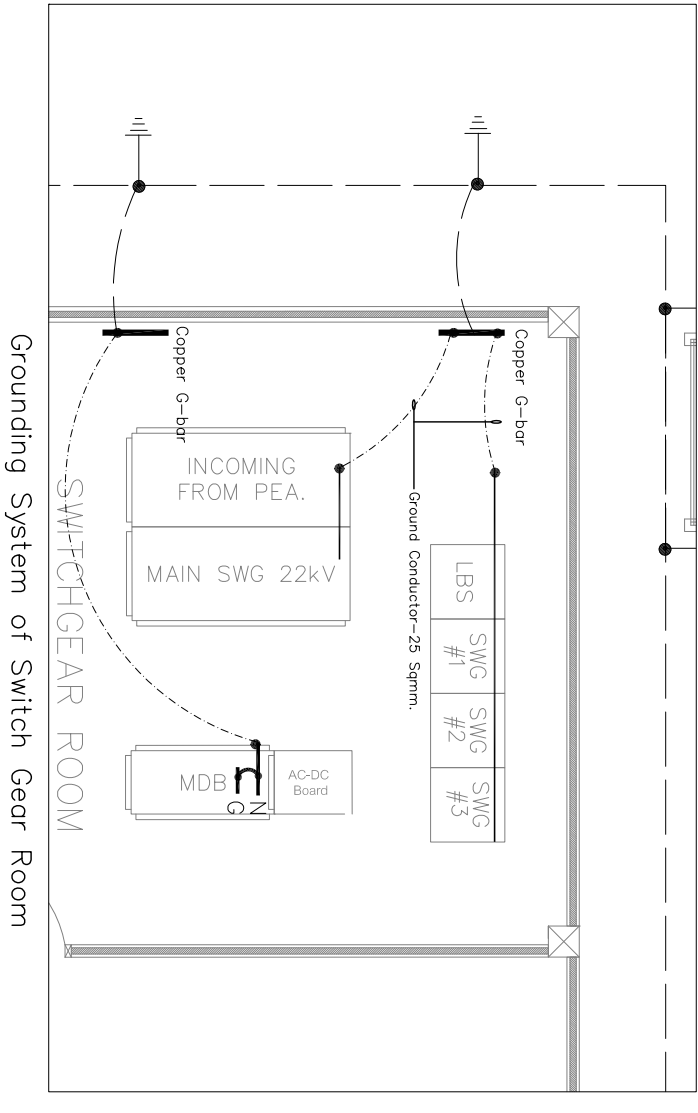
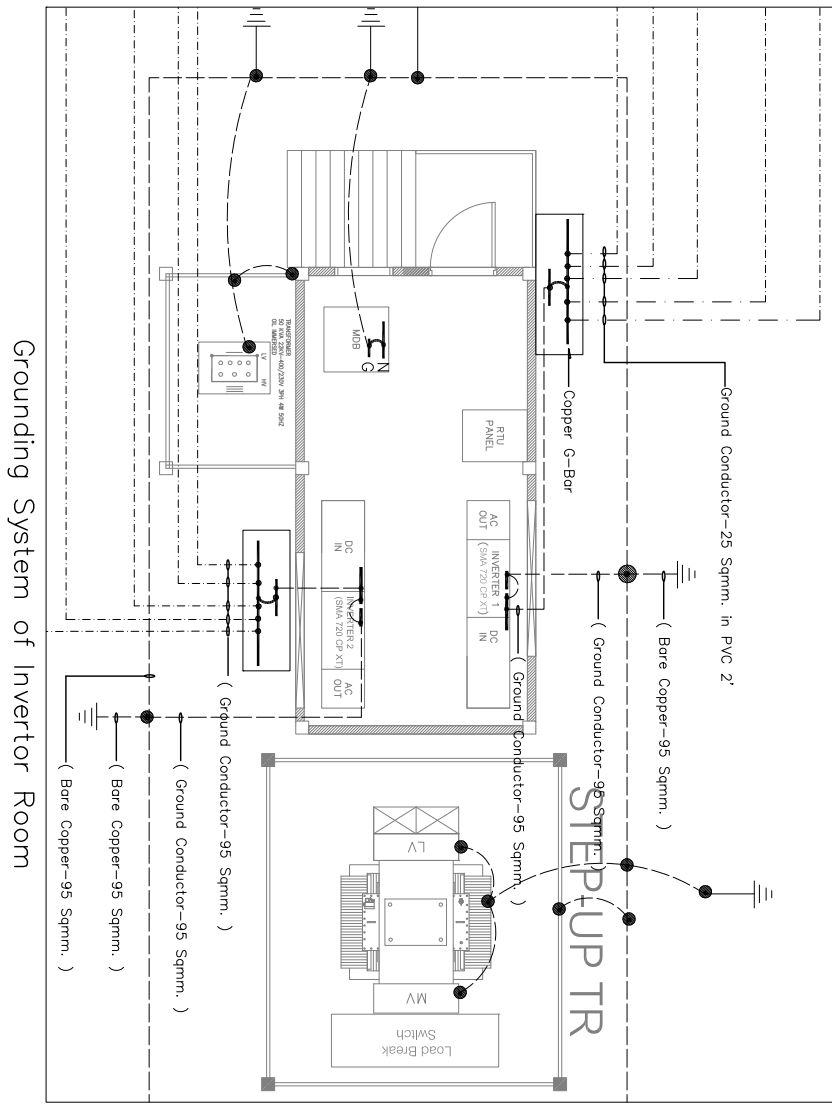
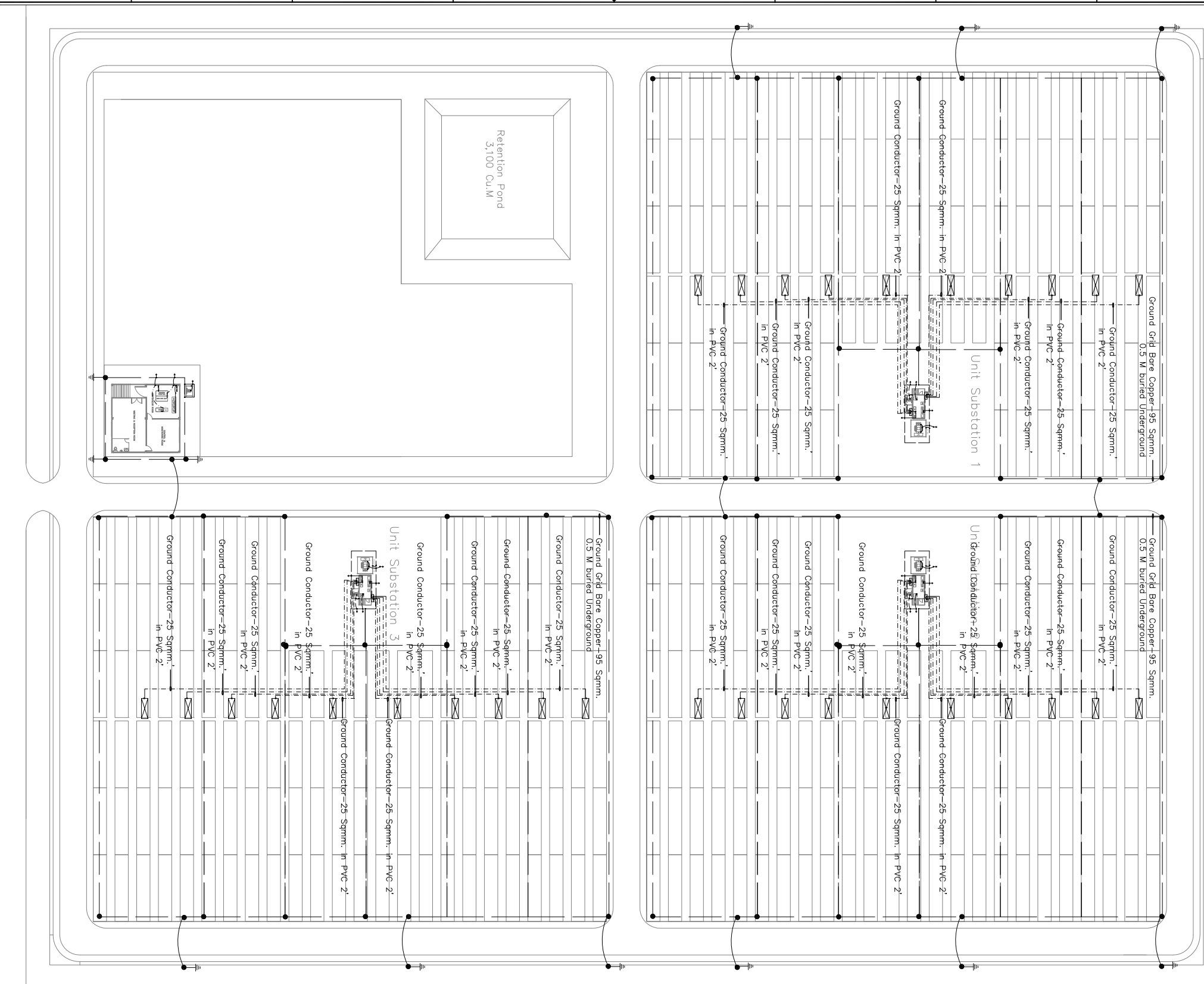


REV.	DATE	DESCRIPTION
2	02/06/15	APPROVED FOR CONSTRUCTION
1	01/23/15	DETAIL DESIGN
B	01/16/15	PRELIMINARY

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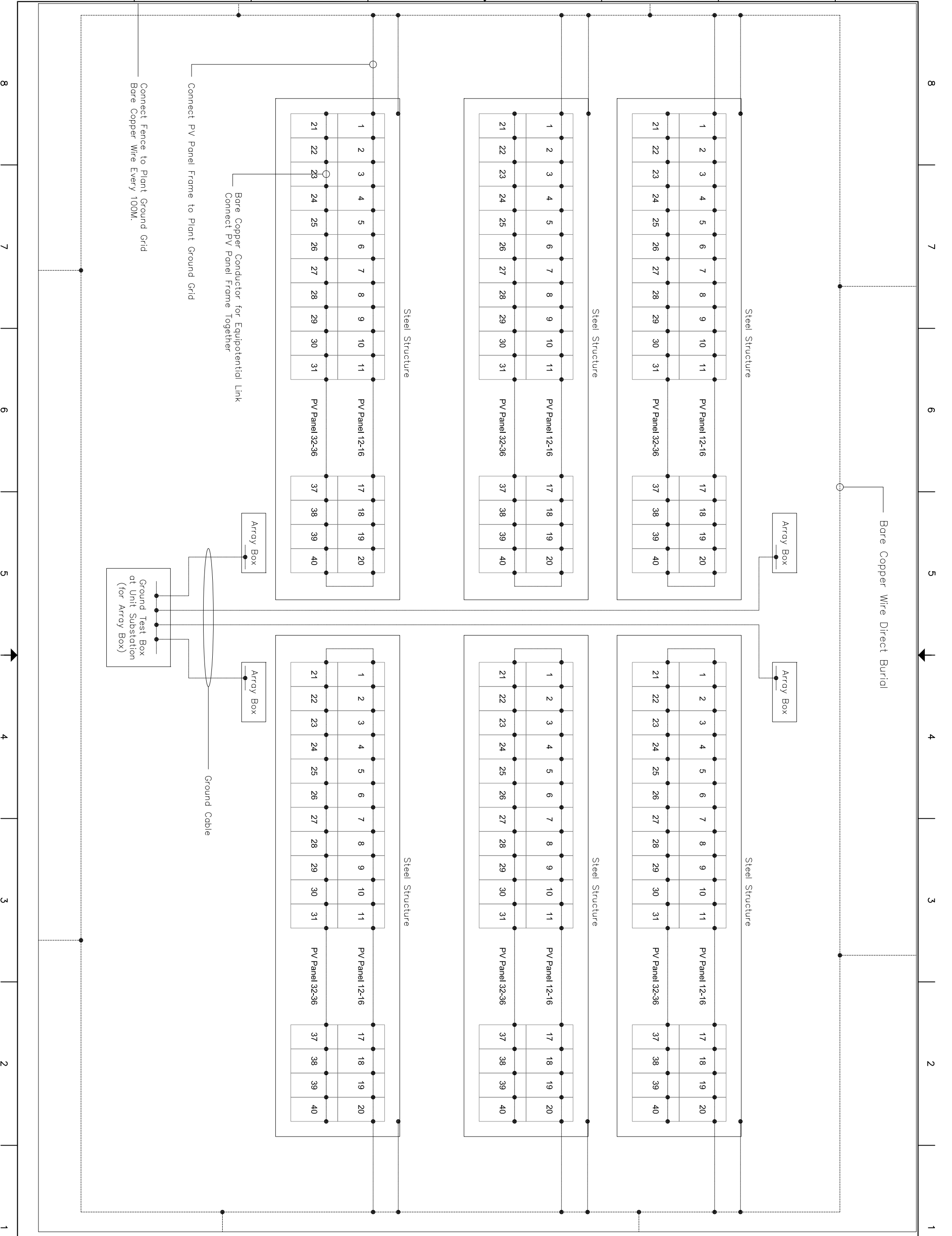
Grounding System Lay Out Plan



- LEGEND :**
- Exothermic Weld
  - ▲ Exothermic Weld with Ground Rod 5/8" x3 Triangle
  - Ground Grid- Bare Copper 95 Sqmm. underground 0.5M
  - - - - - Ø160 MM. HDPE PN-6 CLASS-1

- NOTE :**
1. PV Module Shall have bond Jumper with( Ground Conductor-4 Sqmm. )
  2. PV Structure Shall be bonded to Ground Grid
  3. Minimum Size of Equipment Ground Conductor shall be referred to NEC Table 250.122
  4. Grounding Electrode to Earth must be 25 ohms or less NEC (250.53A)

Grounding System Layout Plan		Engineering Project 2		Engineering Project 2	
DATE	25/05/16	REV.	DATE	DESCRIPTION	BY
0	22/12/15	0	22/12/15	PRELIMINARY (Project 1)	TAP
1	03/23/16	1	03/23/16	DETAIL DESIGN (For Mentor Review)	TAP
2	25/05/16	2	25/05/16	Detail Design (For Final Review)	TAP

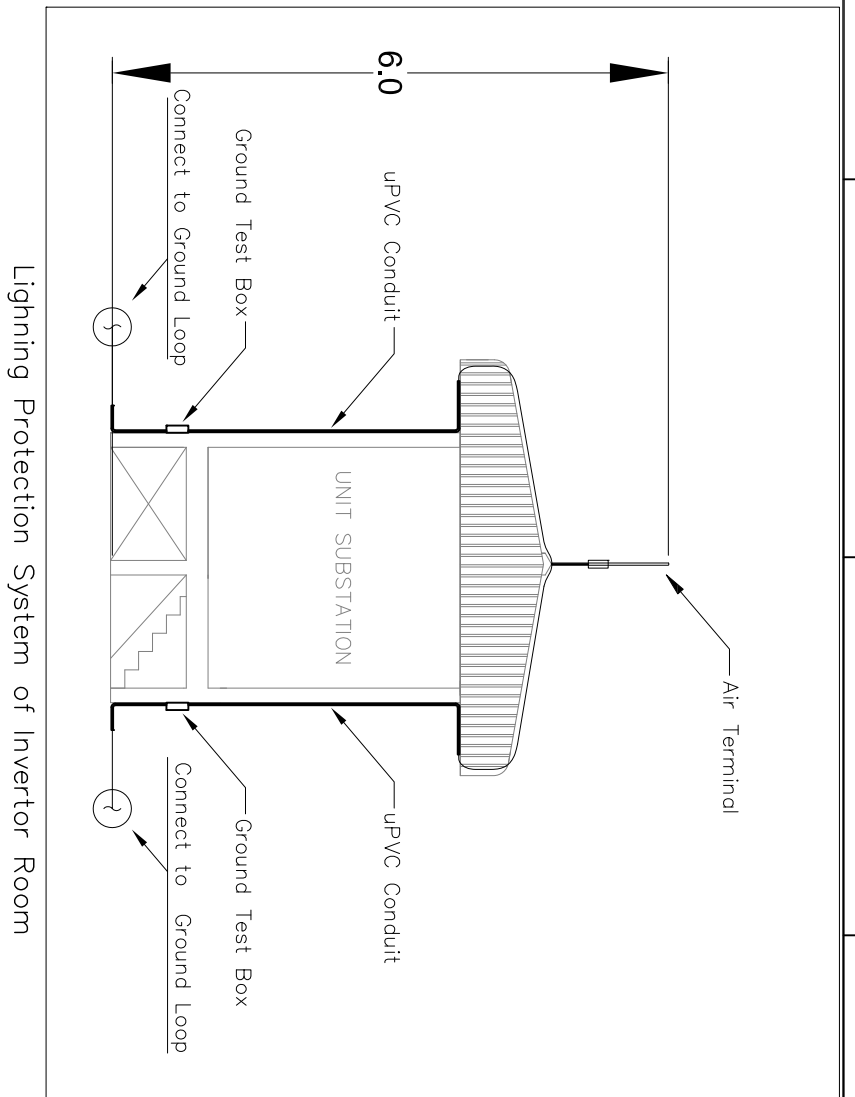
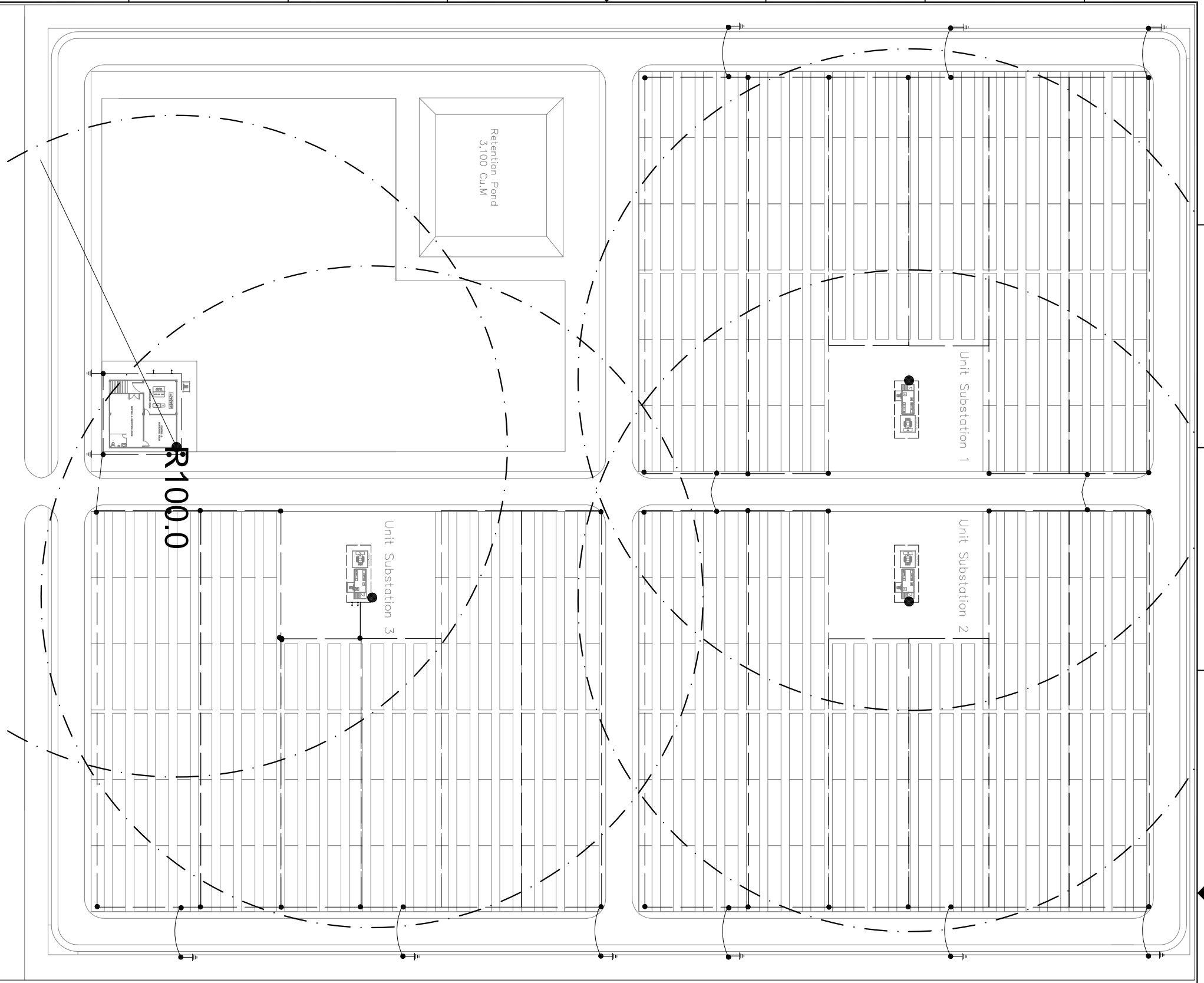


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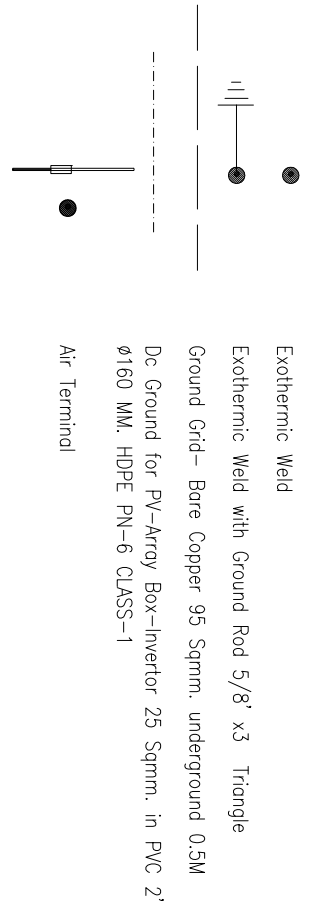
**Engineering Project 2**

<b>Typical Grounding Diagram</b>	
Engineering Project 2	
DATE: 25/05/16	SCALE: 2
DRAWN BY: TAP	APP'D BY:
DATE: 25/05/16	SCALE: 2

Grounding System Lay Out Plan



LEGEND :



NOTE :

1. PV Module Shall have bond Jumper with( Ground Conductor--4 Sqmm. )
2. PV Structure Shall be bonded to Ground Grid
3. Minimum Size of Equipment Ground Conductor shall be referred to NEC Table 250.122
4. Grounding Electrode to Earth must be 25 ohms or less NEC (250.53A)

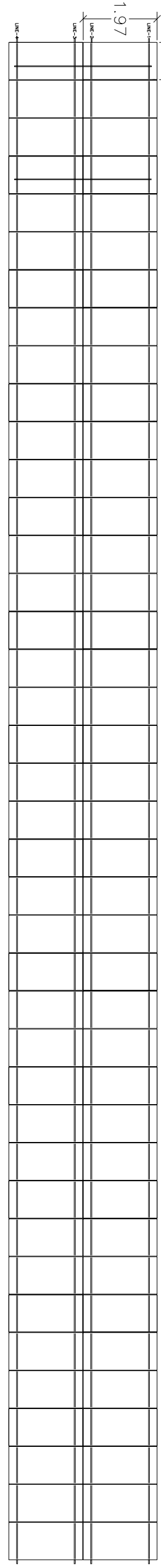
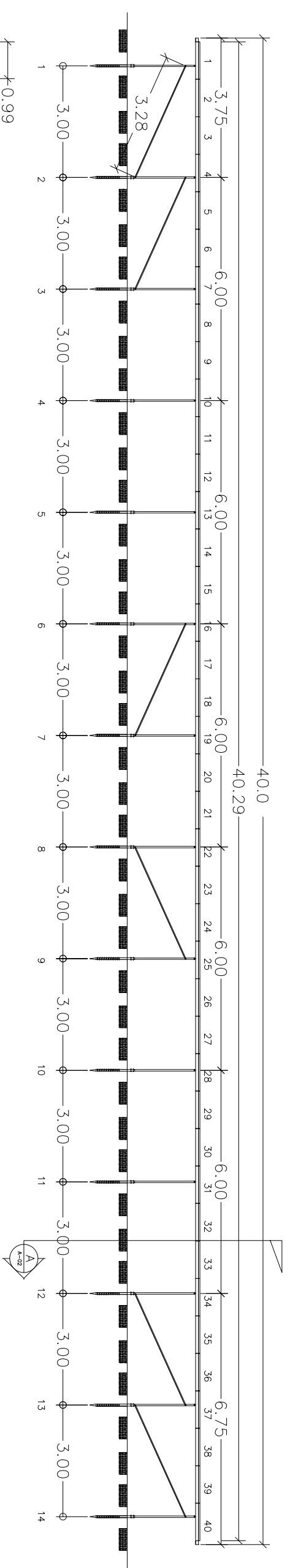
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Engineering Project 2

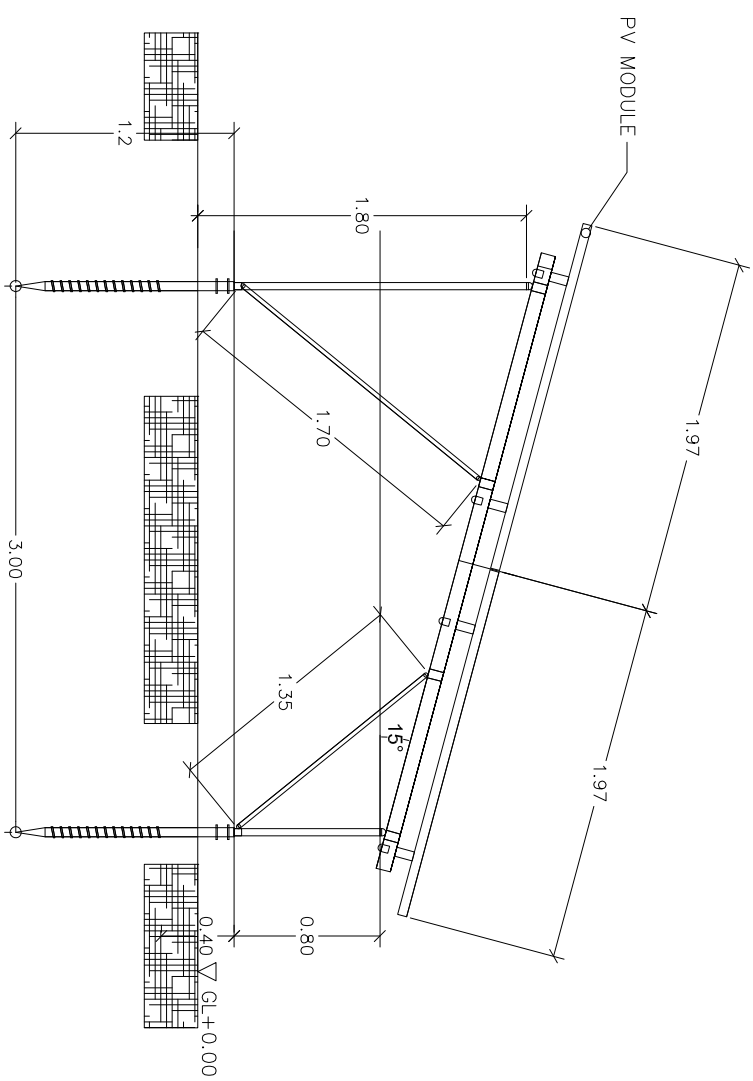
Lightning Protection System

Engineering Project 2

DATE	25/05/16
SCALE	2



PLAN  
A3 SCALE 1:150



- NOTE :
1. NO. of modulus : 2\*20=40 pcs.
  2. wind load: 30m./sec.

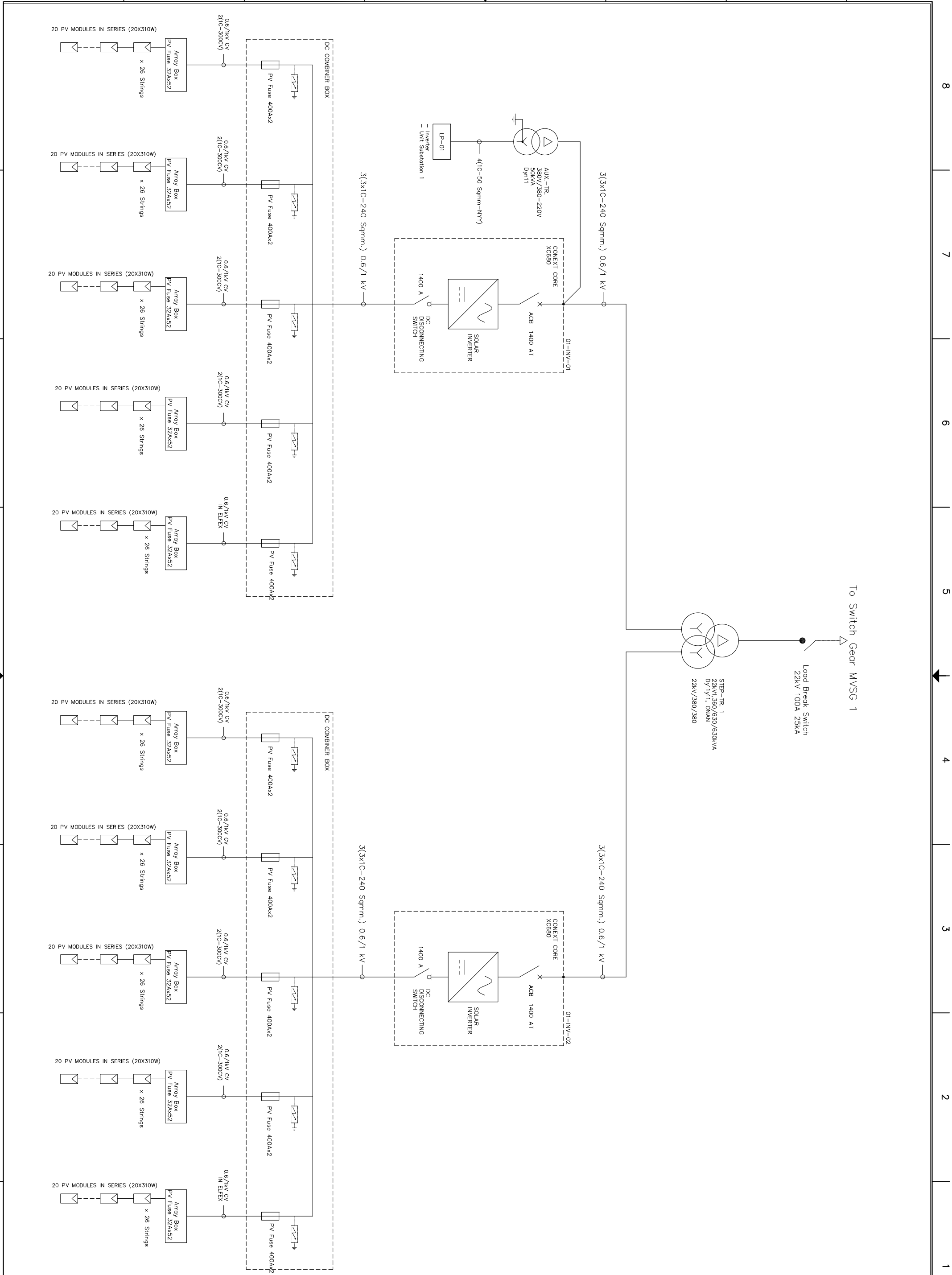
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Engineering Project 2

PV Installation Section

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DATE	25/05/16
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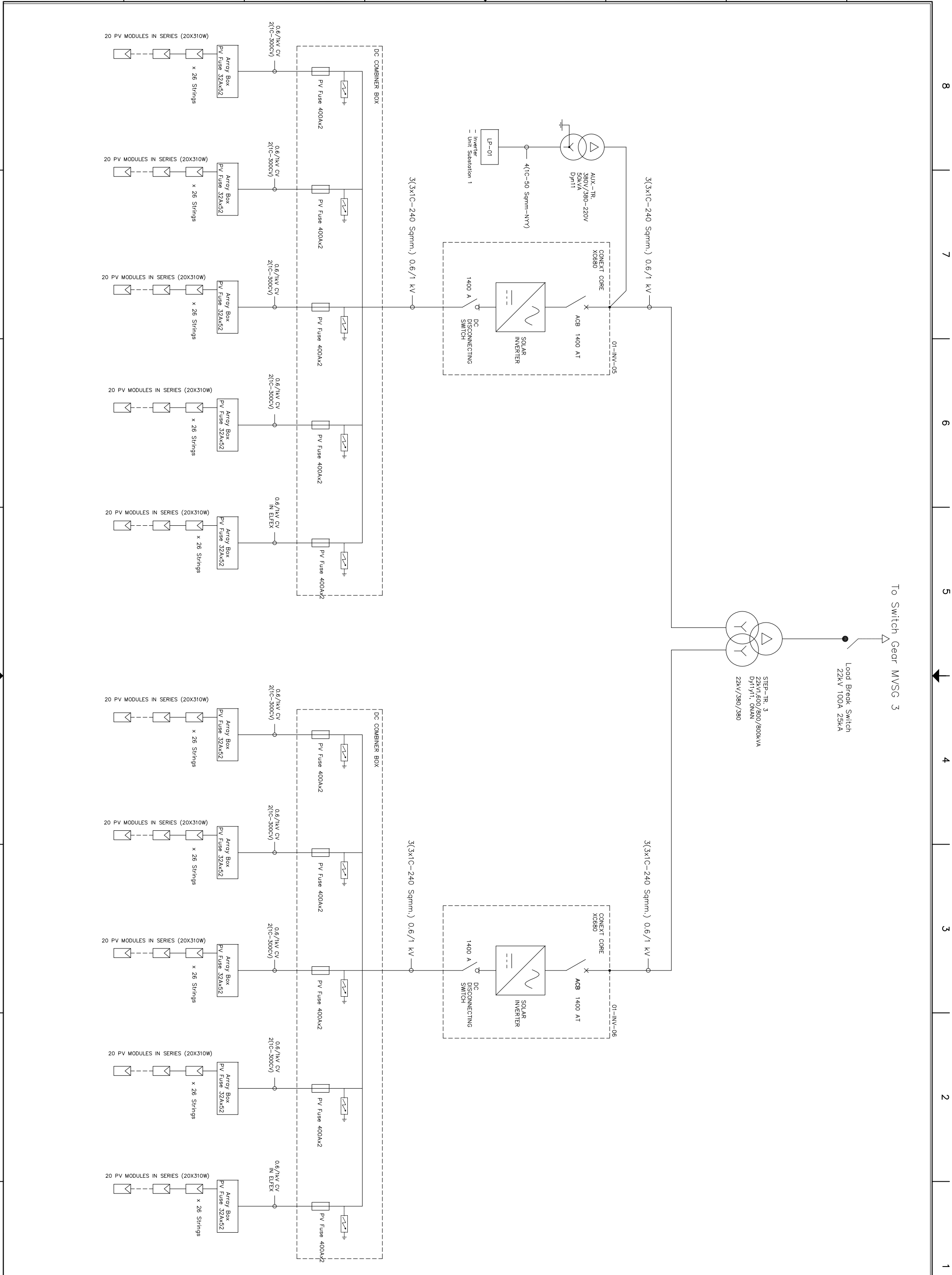


LV- Single Line Diagram 1/3	
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BY	DATE	DESCRIPTION
TAP		
TAP		
TAP		



LV- Single Line Diagram 2/3

Engineering Project 2

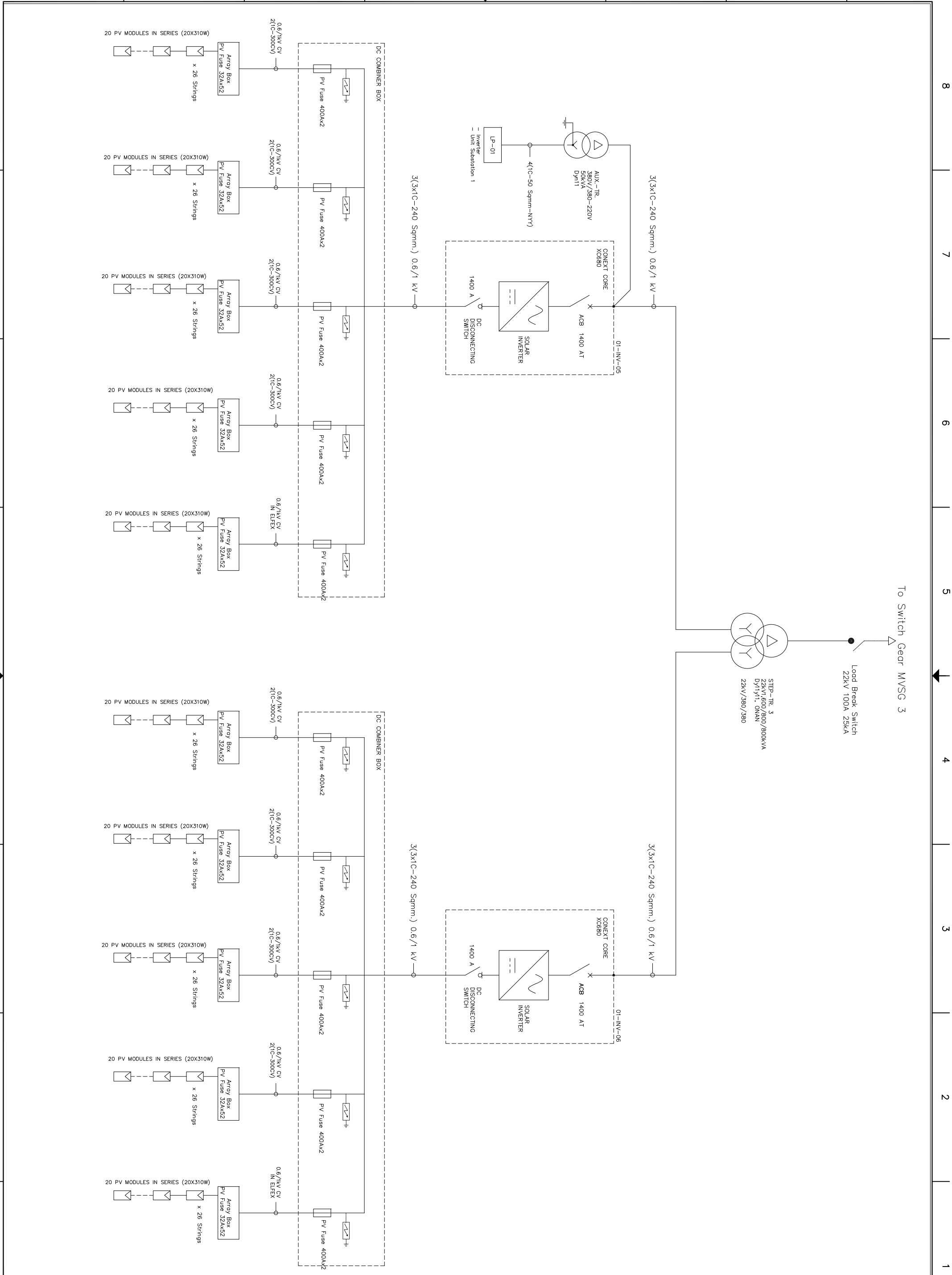
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LV- Single Line Diagram 3/3

Engineering Project 2

DATE	25/05/16
SCALE	2

Engineering Project 2

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DATE	03/23/16	BY	TAP
DATE	22/12/15	BY	TAP

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