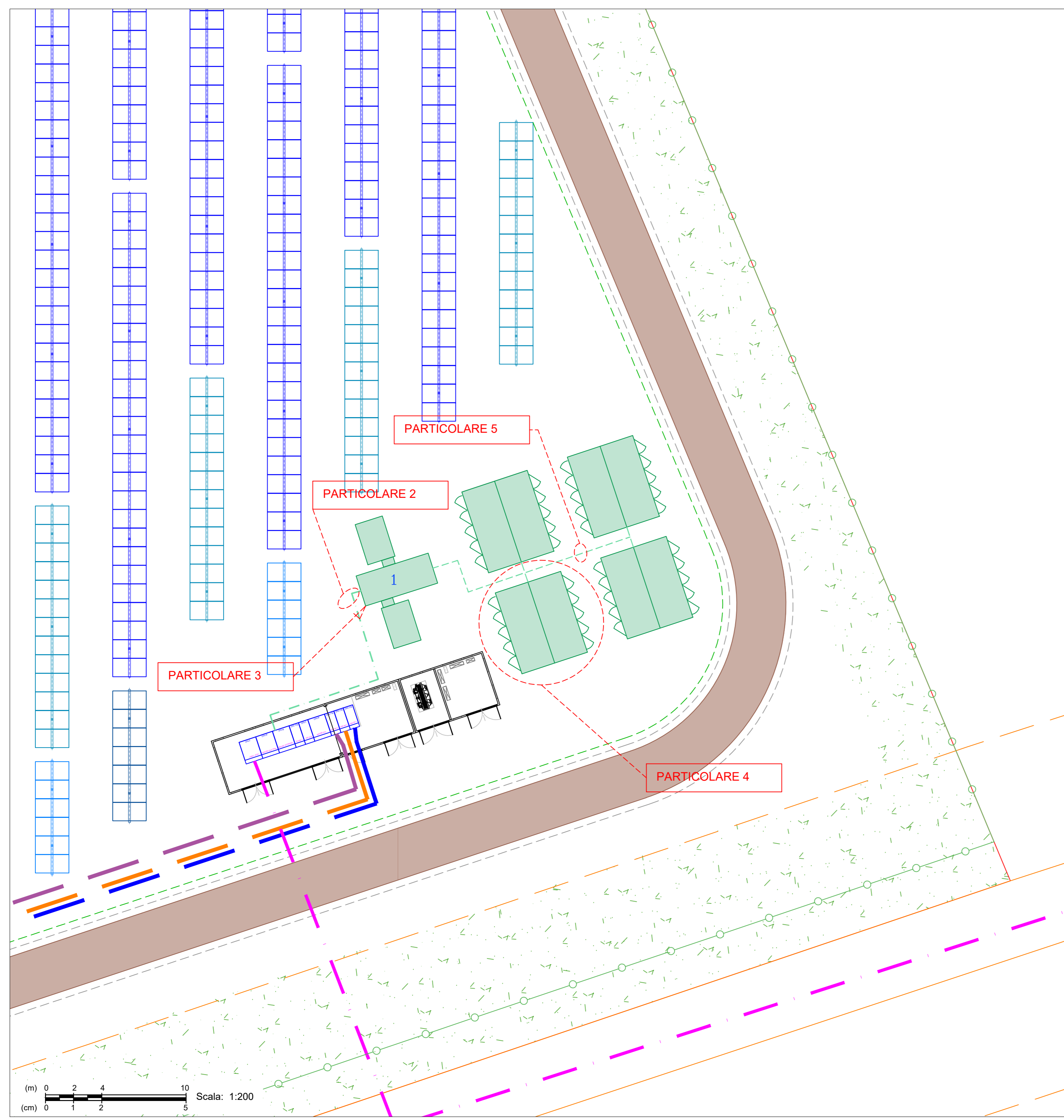
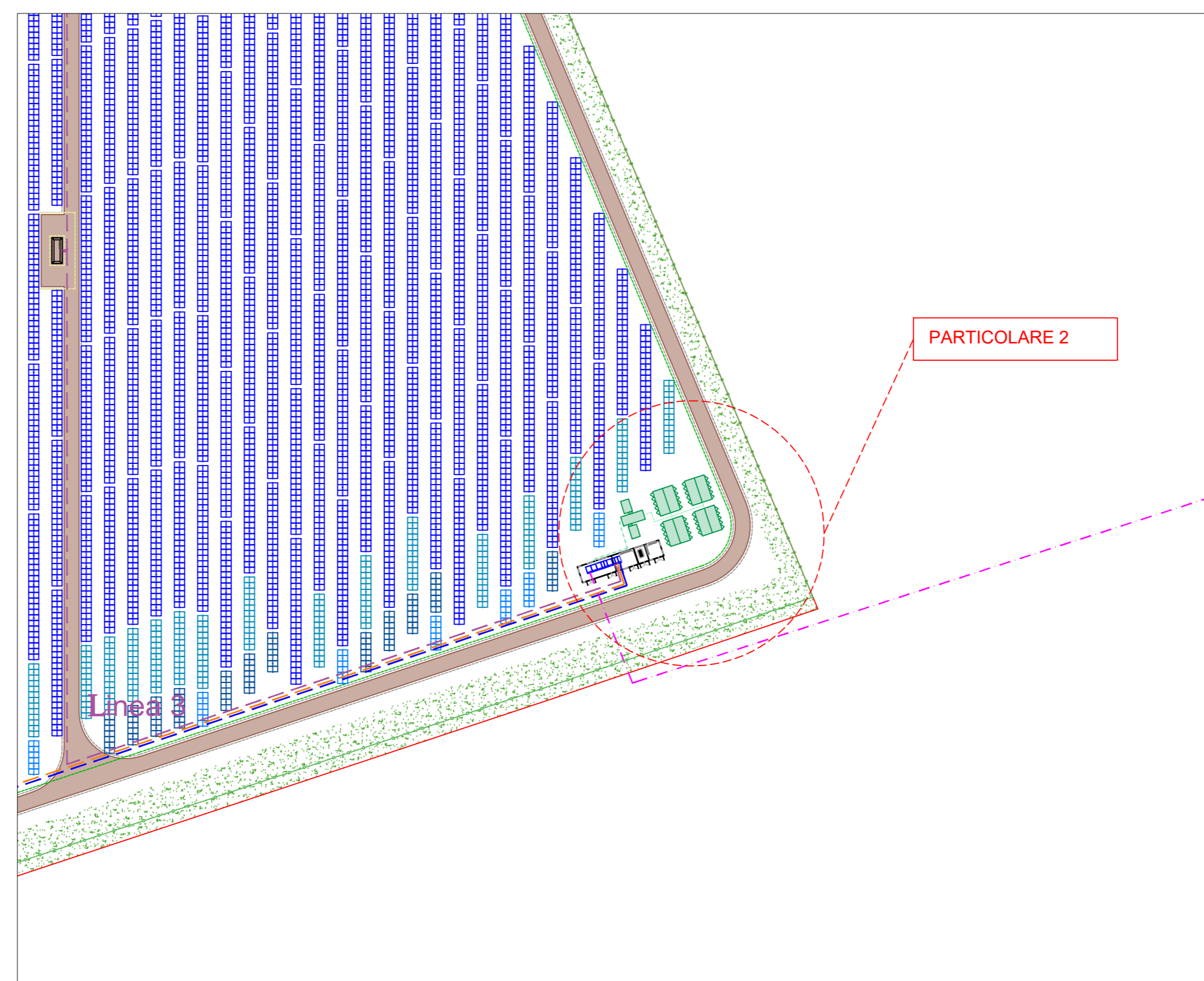


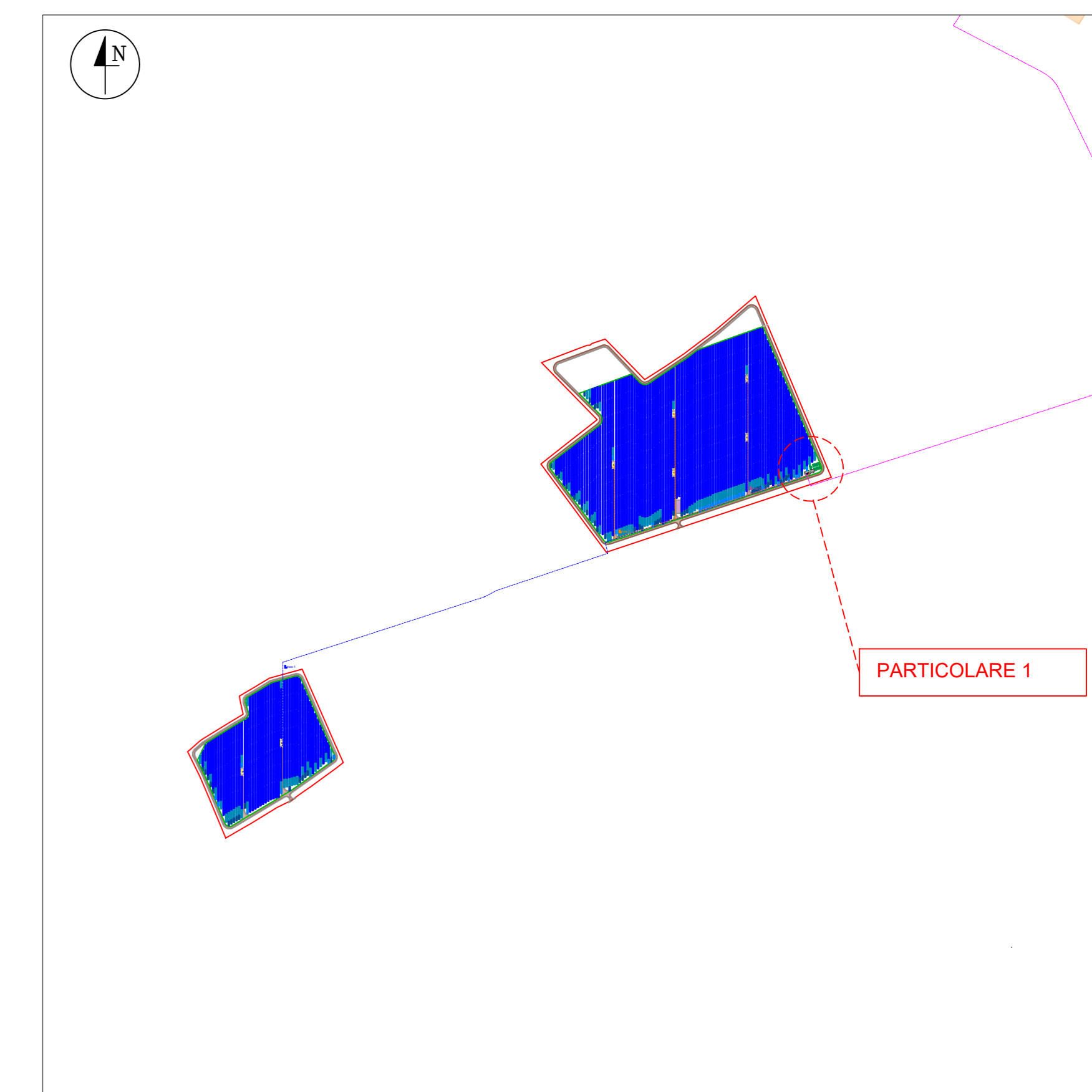
PARTICOLARE 2: DISPOSIZIONE COMPONENTI PER IMPIANTO STORAGE (BESS)



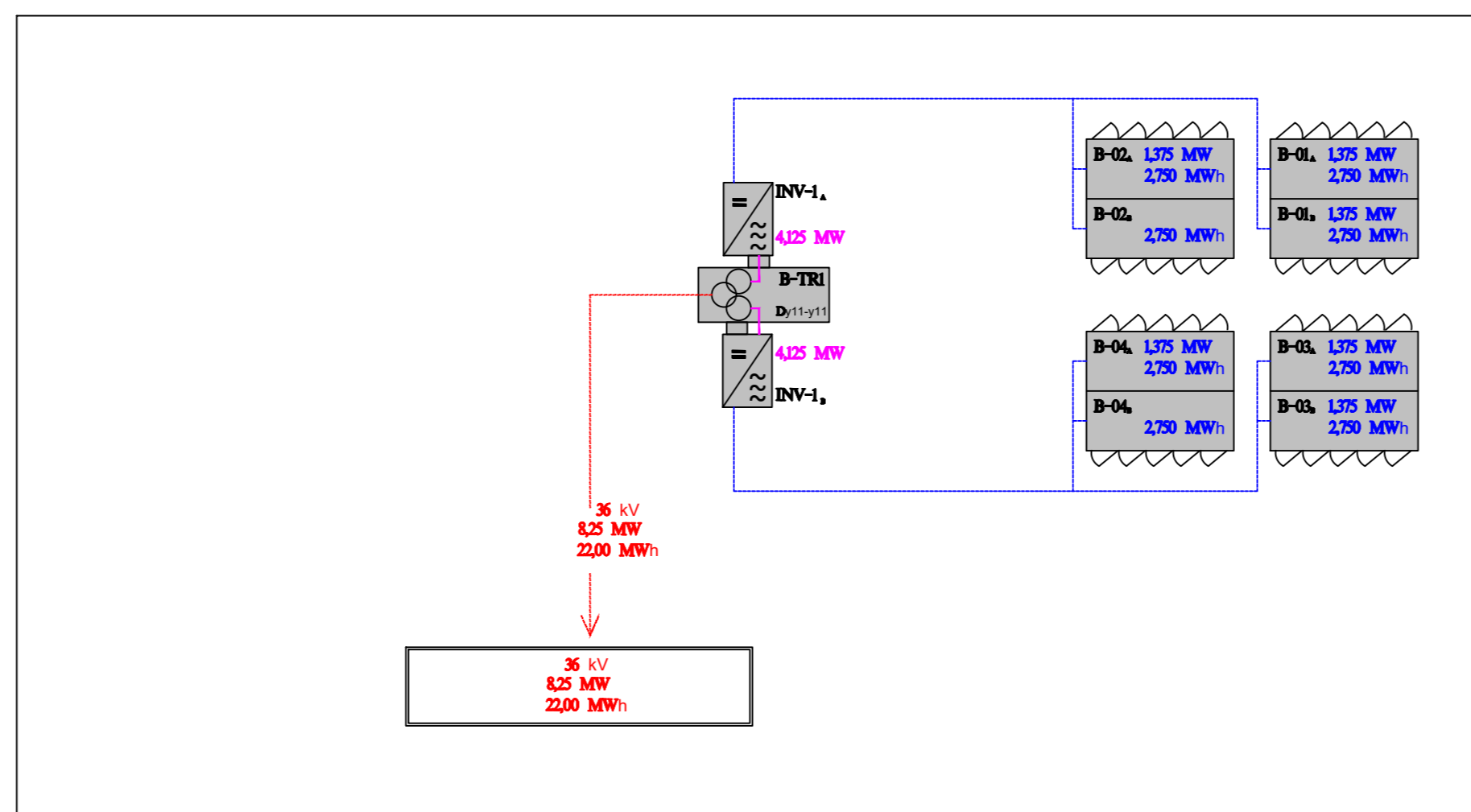
PARTICOLARE 1: AREA IMPIANTO STORAGE (BESS)



LAYOUT DELL'IMPIANTO FV



SCHEMA DI COLLEGAMENTO DEL SISTEMA DI ACCUMULO

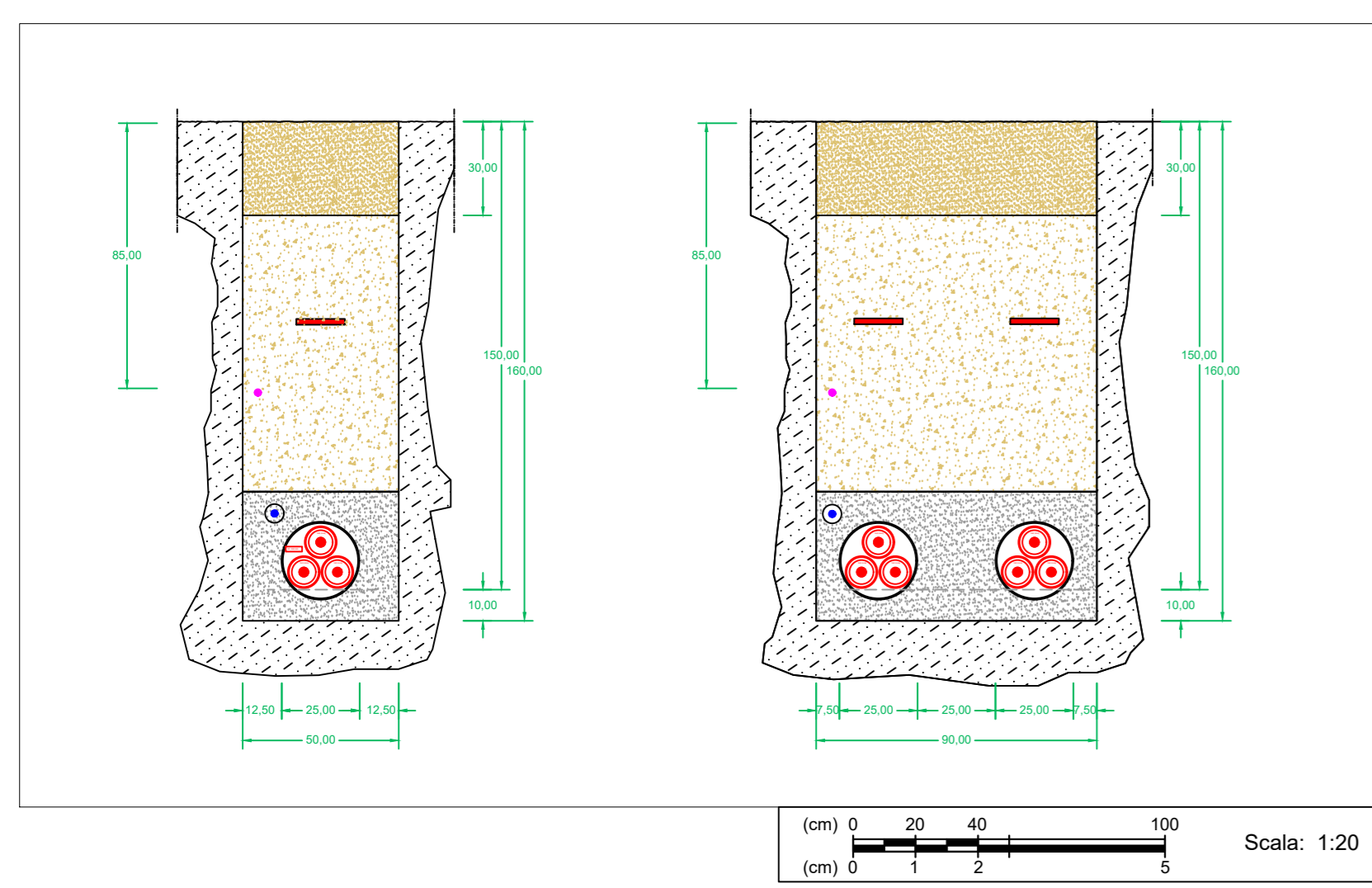


PARTICOLARE 3: GRUPPO INVERTER + TRAF0 BT/AT

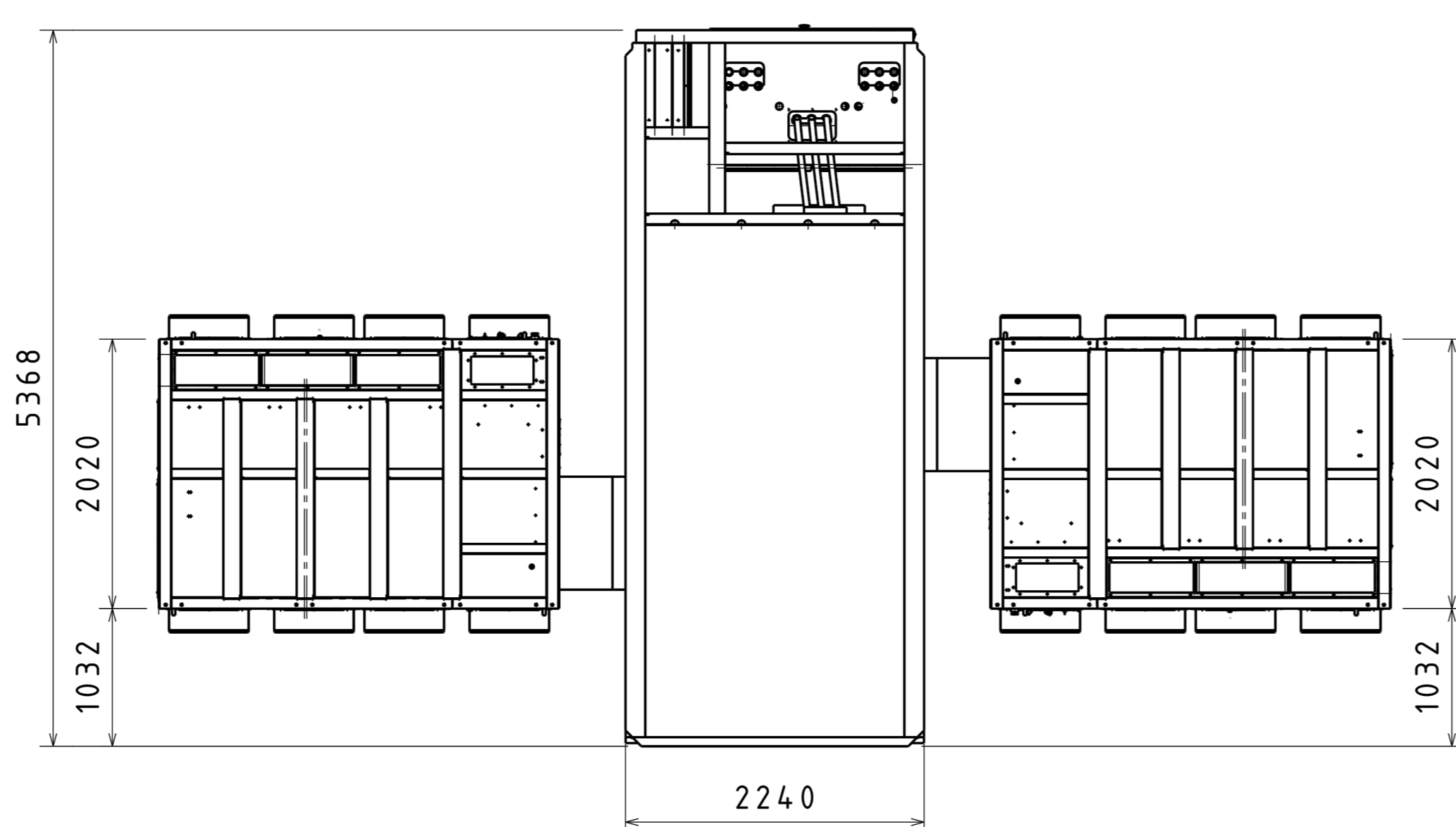


FREEMAQ MULTI PCSK 690V			
REFERENCES	FRAME 2	FRAME 3	FRAME 4
AC Output Power (kVA) @40°C	2100	4200	6300
AC Output Power (kVA) @50°C	2035	4070	6105
Max. AC Output Current (A) @40°C	1887	3690/3705	5535
Operating AC Voltage (VAC)	690V	690V	690V
Operating AC Frequency (Hz)	50/60 Hz	50/60 Hz	50/60 Hz
Overall Harmonic Distortion (THD)	< 5%	< 5%	< 5%
Power Factor (cosφ) min	0.9 leading, 0.9 lagging	0.9 leading, 0.9 lagging	0.9 leading, 0.9 lagging
Electrical power consumption	Four quadrants operation	Four quadrants operation	Four quadrants operation
DC Voltage Range	0 to 1500V	0 to 1500V	0 to 1500V
Maximum DC Voltage	1500V	1500V	1500V
DC Voltage Ripple	< 3%	< 3%	< 3%
Max. DC continuous current (A)	2295	4590	6885
Batteries Technology	All type of batteries (BMS required)		
Number of available DC inputs	2	2	4
Efficiency @ 100% (preliminary)	98.8%	98.8%	98.8%
Efficiency @ 50% (preliminary)	98.45%	98.45%	98.45%
Max. Power Consumption (Watt) (preliminary)	0	0	0
Dimensions (height) (mm)	58 x 64 x 7.2	58 x 64 x 7.2	58 x 64 x 7.2
Dimensions (width) (mm)	1140	1140	1140
Weight (kg) (preliminary)	5200	5200	5200
Weight (kg) (preliminary)	5200	5200	5200
Type of ventilation	Forced air cooling	Forced air cooling	Forced air cooling
Degree of protection	IP54	IP54	IP54
Permissible Ambient Temperature	-30°C to +60°C	-30°C to +60°C	-30°C to +60°C
Relative humidity	< 95% (no condensation)	< 95% (no condensation)	< 95% (no condensation)
Max. altitude (above sea level)	2000m + 2000m (power density Max. 4000m)	2000m + 2000m (power density Max. 4000m)	2000m + 2000m (power density Max. 4000m)
Noise level	< 70 dBA	< 70 dBA	< 70 dBA
Communication protocol	Modbus TCP	Modbus TCP	Modbus TCP
Power Factor Correction	Active	Active	Active
Keypad On/Off switch	Standard	Standard	Standard
Ground Fault Protection	Insulation monitoring device	Insulation monitoring device	Insulation monitoring device
Number of control	Active	Active	Active
General AC Protection & Diagnostics	Circuit breaker	Circuit breaker	Circuit breaker
General DC Protection & Diagnostics	DC switch	DC switch	DC switch
Overvoltage Protection	AC and DC protection (Type 2)	AC and DC protection (Type 2)	AC and DC protection (Type 2)
Cable	UL141, CSA 12.1, IEC 60332-1-2, IEC 60332-3-2, IEC 60332-3-3	UL141, CSA 12.1, IEC 60332-1-2, IEC 60332-3-2, IEC 60332-3-3	UL141, CSA 12.1, IEC 60332-1-2, IEC 60332-3-2, IEC 60332-3-3
Utility Interconnectivity	UL 1741 SA - Feb. 2018, IEEE 1547-1-2008	UL 1741 SA - Feb. 2018, IEEE 1547-1-2008	UL 1741 SA - Feb. 2018, IEEE 1547-1-2008

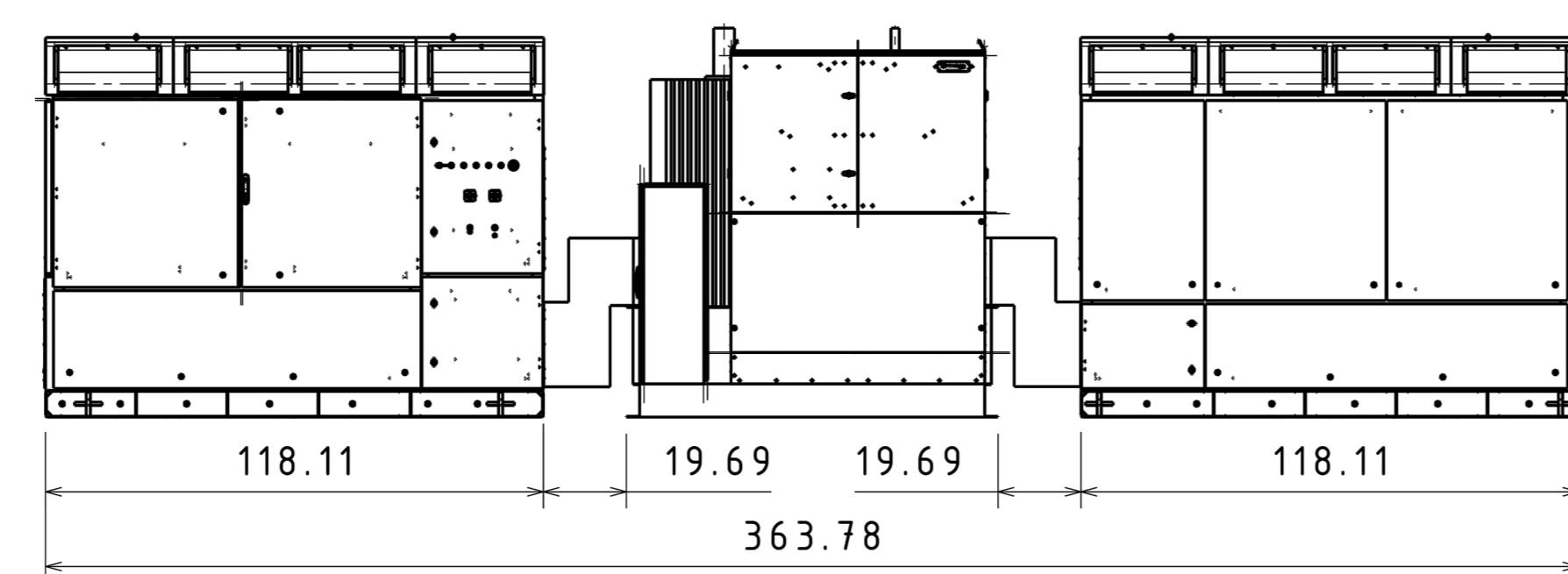
PARTICOLARE 2: SEZIONE SCAVO AT



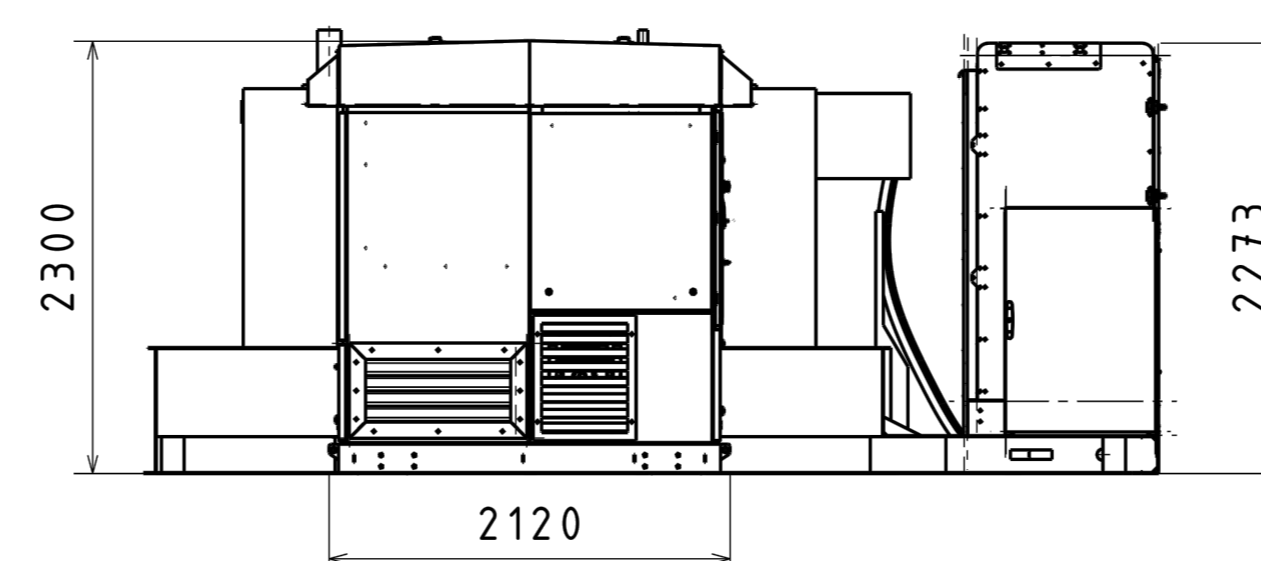
GRUPPO INVERTER + TRAF0 BT/AT:
Vista dal basso



Vista frontale



Vista laterale



PARTICOLARE 4: CONTAINER BATTERIE



TWIN SKID COMPACT	
POWER ELECTRONICS	TWIN SKID COMPACT
TECHNICAL CHARACTERISTICS	TWIN SKID COMPACT
RATINGS	Power range @ 40 °C: 3000 kVA - 6700 kVA Power range @ 50 °C: 2900 kVA - 6700 kVA Max. output range: 0.5 kV / 1.1 kV / 1.5 kV / 2.0 kV / 2.5 kV / 3.0 kV / 3.5 kV / 4.0 kV LV voltage range: 600 V / 690 V / 850 V / 1000 V / 1100 V / 1200 V / 1500 V / 1800 V / 2100 V / 2400 V / 2700 V / 3000 V / 3300 V / 3600 V / 3900 V / 4200 V Transformer cooling: ONAN Transformer vector group: Dyn11 Transformer protection: DoubleStar relay for protection, Breakdown (Duo Model) and gassing Protection of battery level detection: PFI (optional)
TRANSFORMER	Transformer width of protection: IP20 Transformer frame: IEC standard or IEC Tier 2 Oil retention tank: Balanced steel integrated with transformer filter. Optional Self-healing configuration: Gasol tank (V) Self-healing protection: Gasol tank (V) Self-healing about circuit rating: 1000 A Self-healing IEC: A/F, 16 kA 1 s
CONNECTIONS	LV/MV connections: Close coupled solution (plug & play) LV protection: Manual circuit breaker included in the inverter HV AC setting: MV bridge between transformer and protection multiple protected Ambient temperature range: -10 °C to +50 °C (no power density) Maximum altitude (above sea level) up to 1000 m Relative humidity: 4% to 95% non condensing User access: 500 x 600 mm (H x W) / 500 x 600 mm (H x W) / 600 x 600 mm (H x W) / 600 x 600 mm (H x W) User cabinet: Integrated in the inverter (by default). Optionally, LV cabinet in the skid. Cabling: Frontal Data communication: Ethernet fiber optic or RJ45 Data communication: Ethernet fiber optic or RJ45 UPS system: 10 kVA to 100 kVA (optional) Safety mechanism: Interlocks system Fire extinguishing system: Transformer oil tank extinguisher. Optional. STANDARDS
	IEC 62071-212, IEC 62071-200, IEC 60096, IEC 61439-1

REGIONE AUTONOMA DELLA SARDEGNA
COMUNE DI DECIMOPUTZU
Provincia del Sud Sardegna (SU)

PROGETTO DEFINITIVO PER LA REALIZZAZIONE DI UN IMPIANTO
AGROVOLTAICO DENOMINATO DECIMOPUTZU
Loc. "Mitza Cannu" e "Coddu Serra Gureu", Decimoputzu (SU) - 08020, Sardegna, Italia
Potenza Nominale: Impianto FV 18'589,22 kWp -- Sistema di accumulo 8'250,00 kW

<p>Committente - Sviluppo progetto FV: Apollo Decimoputzu S.r.l. Viale della Stazione n. 7 - 09100 Bortolanu (BZ) P.IVA 03168500217, PEC: apollodecimoputzu@legaim.it</p>	<p>Gruppo di lavoro - VIA (La SIA S.p.A.) Riccardo Sacconi - Ingegnere Civile Antonio Dodoni - Ingegnere Idraulico Alberto Mossa - Archeologo Simone Mancioni - Geologo Francesco Paolo Pinchera - Biologo</p>
<p>Coordinamento Progettisti Innova Service S.r.l. Via Santa Margherita n. 4 - 09124 Cagliari (CA) P.IVA 0337940921, PEC: innovaservice@pec.it</p>	<p>Progettazione Agronomica (La SIA S.p.A.) Agr. Franco Milto - Agronomo Agr. Rita Bosi - Agronomo Agr. Stefano Abeni - Agronomo Progettazione Elettrica Ing. Silvio Matta - Ing. Elettrico</p>
<p>Coordinamento gruppo di lavoro VIA La SIA S.p.A. Viale Luigi Schoenetti n. 286 - Roma (RM) P.IVA 08207411003, PEC: direzione.lasia@pec.it</p>	

Elaborato				
DETTAGLI APPARECCHIATURE STORAGE				
Codice elaborato	Scala	1:200	1:40	Formato A0
TAV_EL_08-STORAGE				
REV.	DATA	ESEGUITO	VERIFICATO	APPROVATO
R00	Gennaio 2024			
Note				