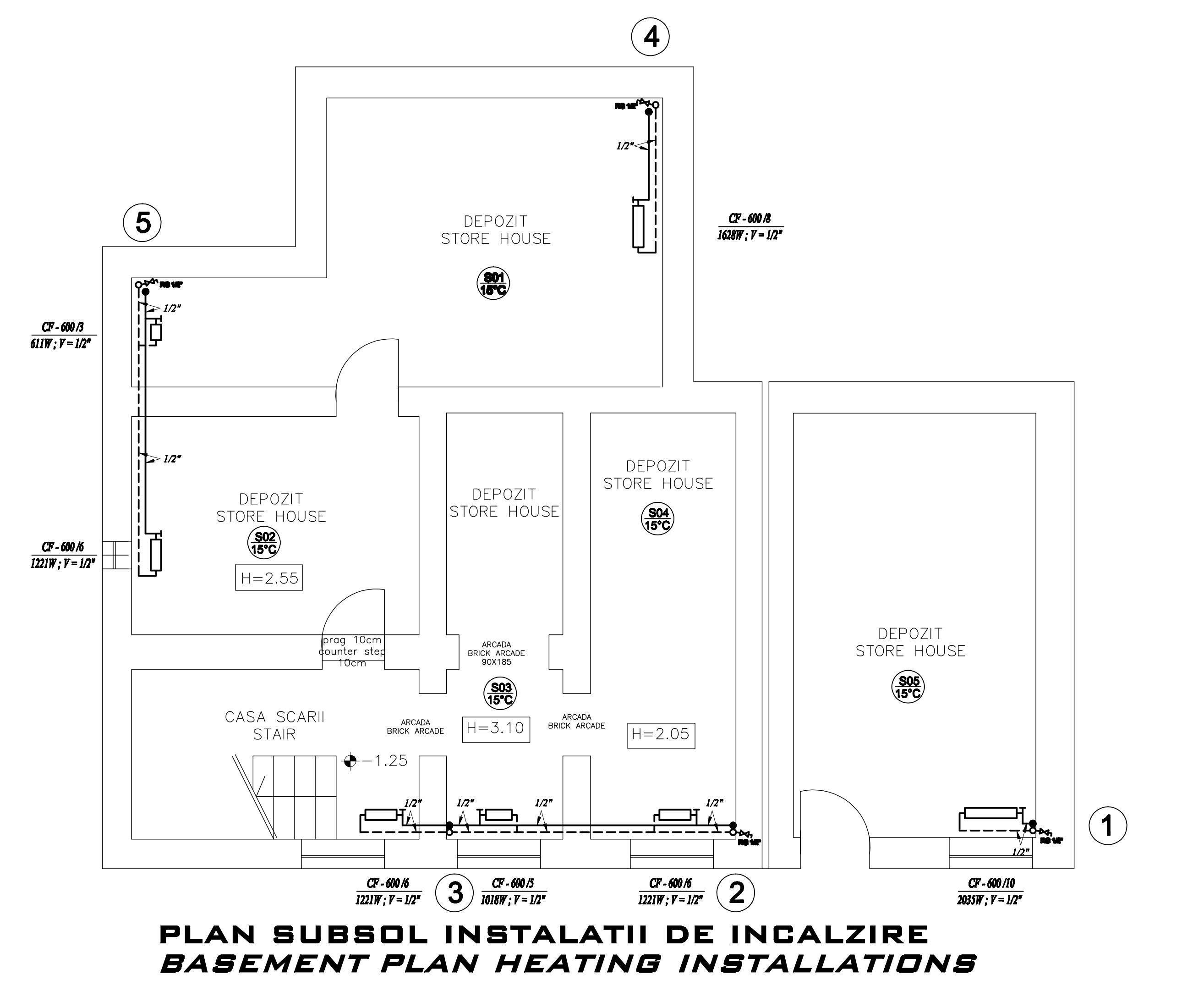
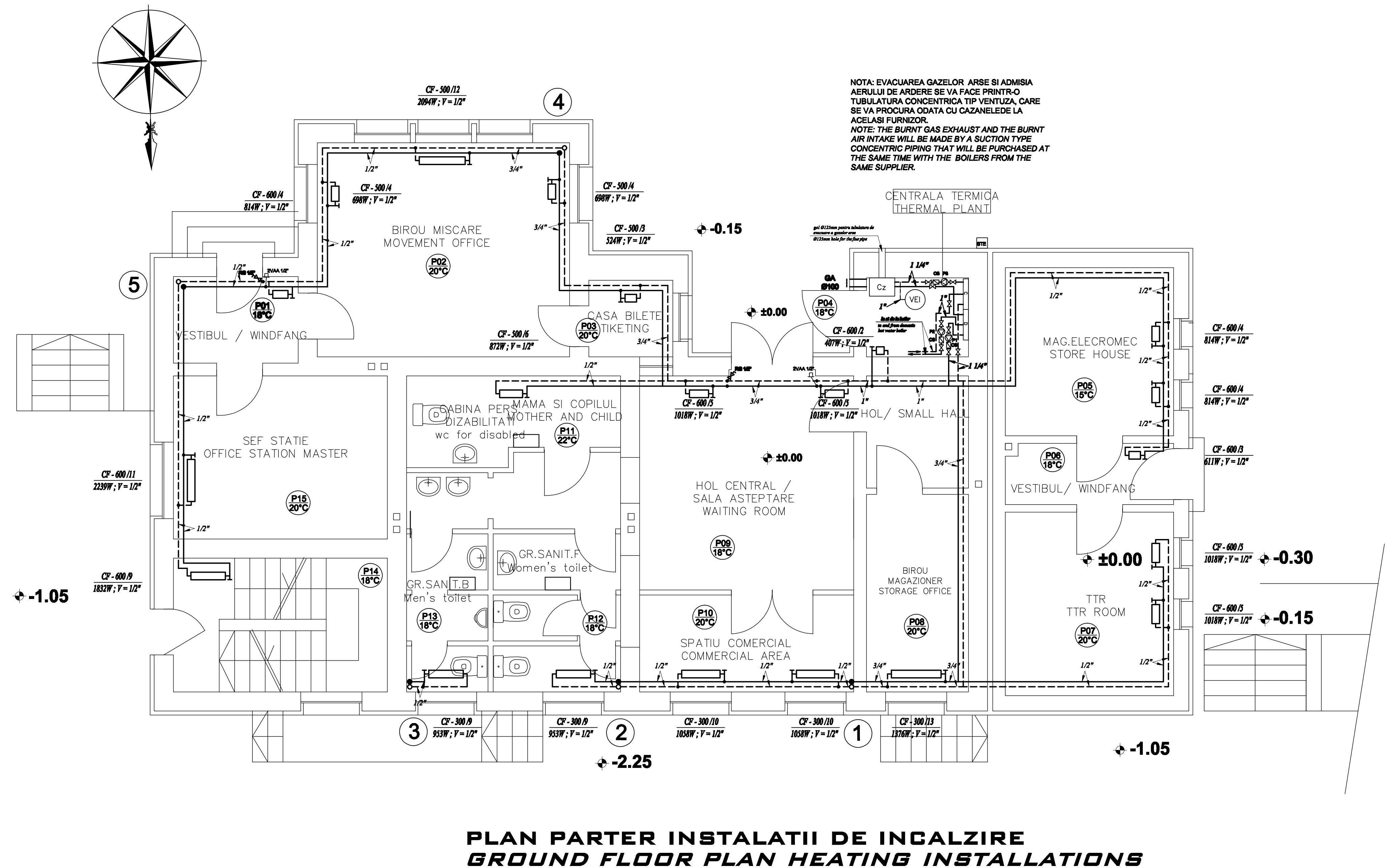
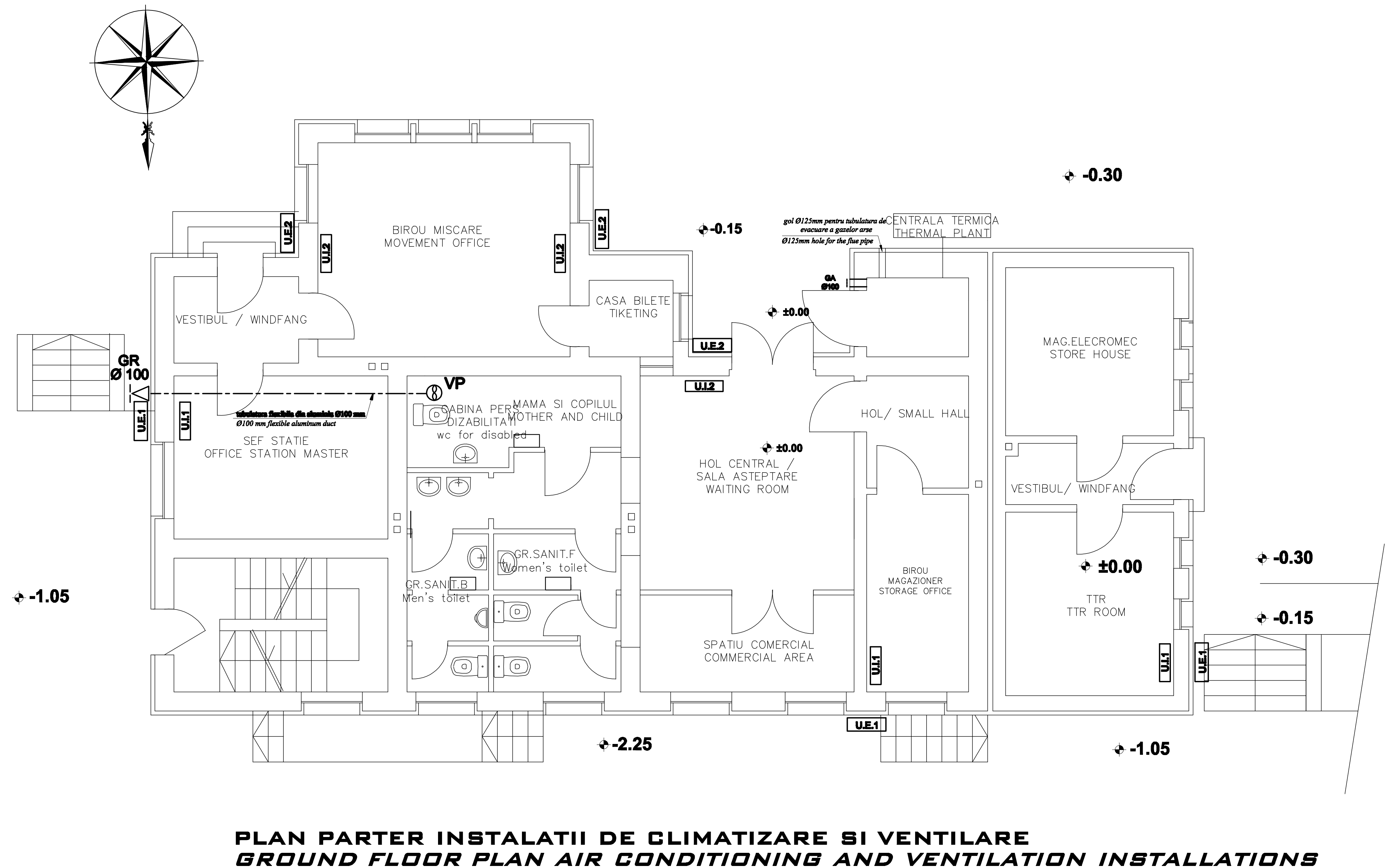


PLAN SUBSOL INSTALATII DE INCALZIRE
BASEMENT PLAN HEATING INSTALLATIONS



PLAN PARTER INSTALATII DE INCALZIRE
GROUND FLOOR PLAN HEATING INSTALLATIONS



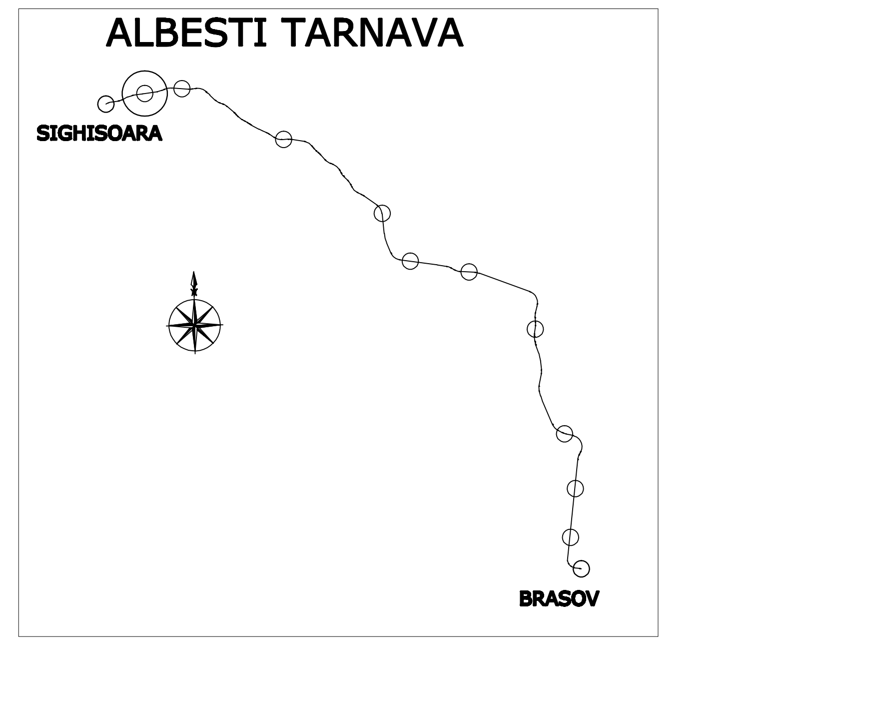
PLAN PARTER INSTALATII DE CLIMATIZARE SI VENTILARE
GROUND FLOOR PLAN AIR CONDITIONING AND VENTILATION INSTALLATIONS

LEGENDA

———	Conducta din otel, agent termic tur.
– – – –	Conducta din otel, agent termic retur.
Cz	Cazan mural in condensatie pentru incalzire, cu functionare pe gaze naturale, schimbator de caldura monobloc din aluminiu/siliciu, echipat cu tablou de comanda cu programare functie de temperatura exterioara, echipat cu statie neutralizare condens si arzator pe gaz din inox, cu preamestec, puterea termica utila minima/maxima: 8/40 kW la temperatura tur/retur 80/60°C.
P1	Pompa circulatie agent termic apa calda 80/60°C, pentru instalatia de incalzire, debit : 2 mc/h, inaltime de pompare : 3 mCA la turatie medie, putere electrica : 300W, alimentare monofazata.
P2	Pompa circulatie agent termic apa calda 80/60°C, pentru boiler, debit : 1,5 mc/h, inaltime de pompare : 1,0 mCA la turatie medie, putere electrica : 200 W, alimentare monofazata.
P3	Pompa injectie cazan, debit : 2,5 mc/h, inaltime de pompare : 1,0 mCA la turatie medie, putere electrica : 150 W, alimentare monofazata.
VEI	Vas expansiune inchis cu membrana, 50 litri, 6 bar.
CS	Clapeta de sens.
SS	Supapa de siguranta.
RG	Robinet de golire
M	Manometru
CF-H/Nr.El	Radiatoare din aluminiu cu miez de otel (bimetal), tipul elementului-inaltimea/nr. de elementi
VAA	Ventil automat de aerisire montat pe coloana
RG	Robinet de golire
RA	Robinet de aerisire montat pe radiator
D / C	Distribuitor / Colector
STE	Sonda de temperatura exterioara
P01	Incaperea 01 - plan parter
20°C	Temperatura interioara de calcul
①, ②....	Coloane incalzire
GA	Grila de aerisire
VP	Ventilator de plafon cu senzor de prezenta si timer
GR	Grila de refulare
UI1-UE1	Sistem SPLIT Qincalzire/racire = 2.87 / 2.79 KW
UI2-UE2	Sistem SPLIT Qincalzire/racire = 3.75 /3.5 KW

LEGEND

———	*Steel pipe for heat carrier supply*
– – – –	*Steel pipe for heat carrier return*
CZ	*Condensing wall-mounted natural gas heating boiler, aluminum/silica monoblock heat exchanger provided with programming control panel depending on outdoor temperature, equipped with condense neutralizing device and stainless steel pre-mixture gas burner, minimum /maximum actual thermal efficiency :8/40 kW at supply/return temperature 80/60°C.*
P1	*Hot water heat carrier circulation pump 80/60°C for heating installation, flow rate: 2 m3/h, delivery lift: 3 mCA at medium speed, electrical power: 300 W, single-phased supply.*
P2	*Hot water heat carrier circulating pump 80/60°C for boiler, flow rate: 1,5 m3/h, delivery lift: 1,0 mCA at medium speed, electrical power: 200 W, single-phased supply.*
P3	*Injection pump, flow rate: 2,5 m3/h, delivery lift: 1,0 mCA at medium speed, electrical power: 150 W, single-phased supply.*
VEI	*Diaphragm expansion vessel, 50 l, 6 bars.*
CS	*Direction valve.*
SS	*Safety valve.*
RG	*Plug cock for discharge*
M	*Manometer.*
CF-H/Nr.El	*Aluminium radiator core steel (bimetal), element type - height/no. of elements*
VAA	*Automat air releasing valve column mounted*
RG	*Plug cock for discharge*
RA	*Manual air releasing valve mounted on the radiator.*
D / C	*Distributor / Collector*
STE	*Outdoor temperature sensor*
P01	*Room 01 - groundfloor plan*
20°C	*Indoor calculation temperature*
①, ②....	*Heating columns*
GA	*Grid ventilation*
VP	*Ceiling fan with sensor and timer*
GR	*Grid exhaust*
UI1-UE1	*SPLIT system Qheating/cooling = 2.87 / 2.79 KW*
UI2-UE2	*SPLIT system Qheating/cooling = 3.75 / 3.5 KW*



NOTĂ:

1. Condensul rezultat de la unitățile interioare ale aparatelor de climatizare se va prelua, prin intermediul unei conducte din PVC Ø20mm, la pardoseala încăperii și apoi va fi dirijat către exterior.
2. Înălțimea de montaj a unităților exterioare ale aparatelor de climatizare va fi deasupra cotei superioare a ferestrelor.
3. Pentru caracteristicile tehnice ale boilerului se vor consulta planurile:
- Schema coloanelor - instalatii sanitare interioare - Statia Albesti Tarnava
- Plan instalatii sanitare interioare - Statia Albesti Tarnava

NOTE:

1. The condensed water resulted from the indoor unit of the air conditioners will be taken over by a PVC Ø20mm pipe to the room floor and then directed outside.
2. The mounting height of the outdoor units of the air conditioners will be above the window upper level.
3. For the technical characteristics of the domestic hot water boiler will se plans:
- Albesti Tarnava Station - Indoor sanitary installations - Columns scheme
- Albesti Tarnava Station - Indoor sanitary installations plan

Indice Index	Data Date	Modificare Modification/Revision	Proiectant Designer	Aprobat Consultant Approved Consultant	Aprobat CFR Approved CFR
D					
C					
B					
A					

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANȚAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

CLIENT / CLIENT
C.N.C.F. "C.F.R." - S.A.

ITALFERR GRUPPO FERROVIE DELLO STATO *Joint Venture leader*
Scott Wilson
OBERMEYER PLANEN + BERATEN GmbH
TECNIC Consulting Engineers

CONSULTANT / CONSULTANT			Data Date	Semnătură Signature
Aprobat Approved	Șef proiect Project manager	R. Liuzza	DEC. 2011	
Aprobat Approved	Coordonator Secțiune 1 Section 1 Coordinator	C. Gambelli	DEC. 2011	
Verificat Checked	Expert Verificator Checking Expert	G. Fioravanti	DEC. 2011	

SUBCONTRACTANT / SUBCONTRACTOR				
Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A.Stanciu - Dinulescu	DEC. 2011	
Întocmit Elaborated	Proiectant Designer	Valentin Radu	DEC. 2011	

Reabilitarea liniei de cale ferata Brașov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteza maximă de 160 km/h, Tronsonul : Brașov - Sighișoara
Rehabilitation of the railway line Brașov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h, Section : Brașov - Sighișoara

Proiect/Project *2004/RO/16/P/PA/003*

Faza / Phase: P.Th. / T.D.

Denumire desen / Drawing Title :

Plan instalatii de incalzire interioare, centrala termica si climatizare - Stația Albesti Tarnava
Albesti Tarnava Station - Indoor heating installations plan, thermal plant, air conditioning

Codificare / Codification System	Scara / Scale 1:50	LOT / LOT	Nr. / No 01 / 01
EA51 01 C 19 PB IV 00 9 1 046 2			

4 A2(420x2376mm)