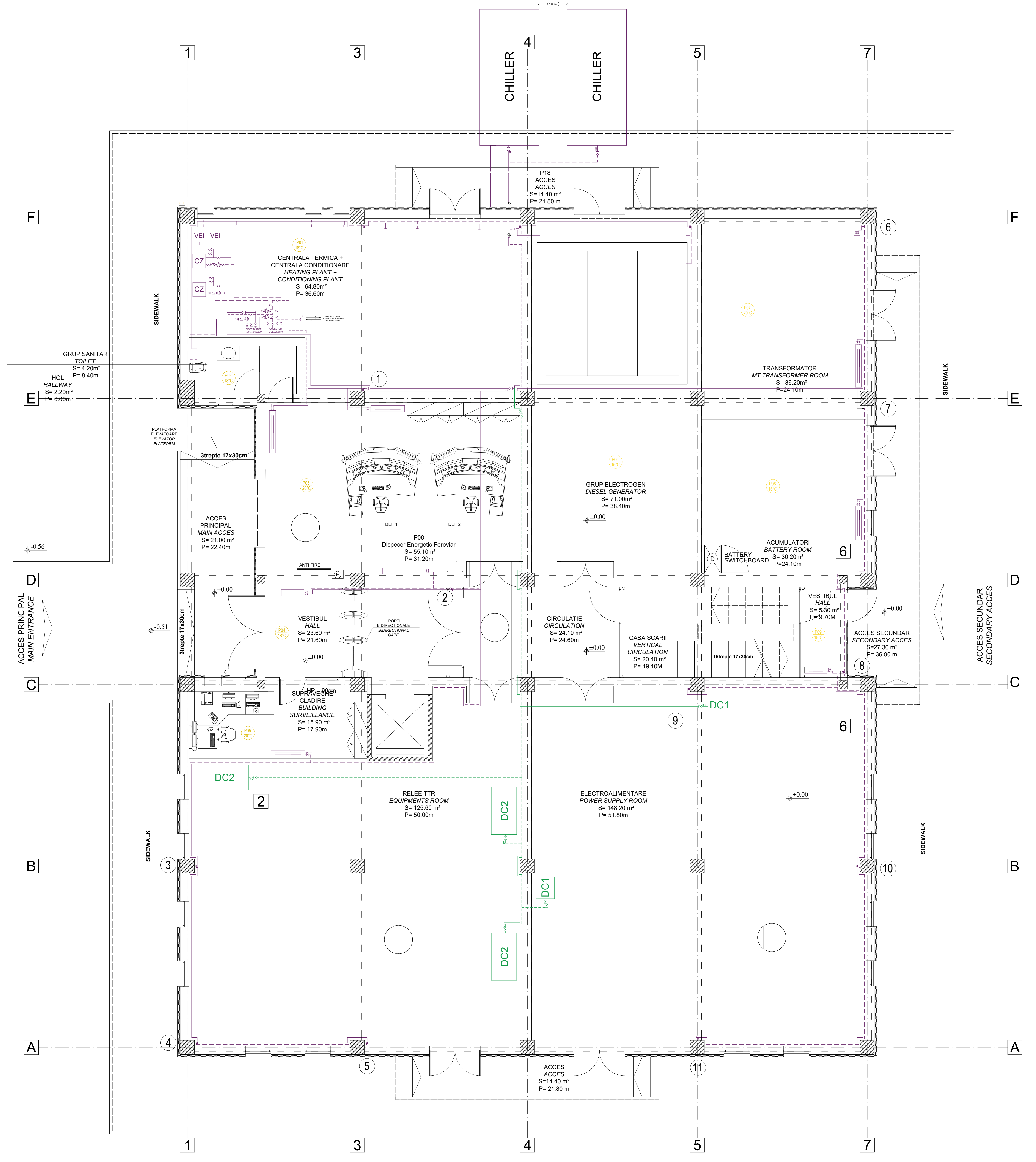
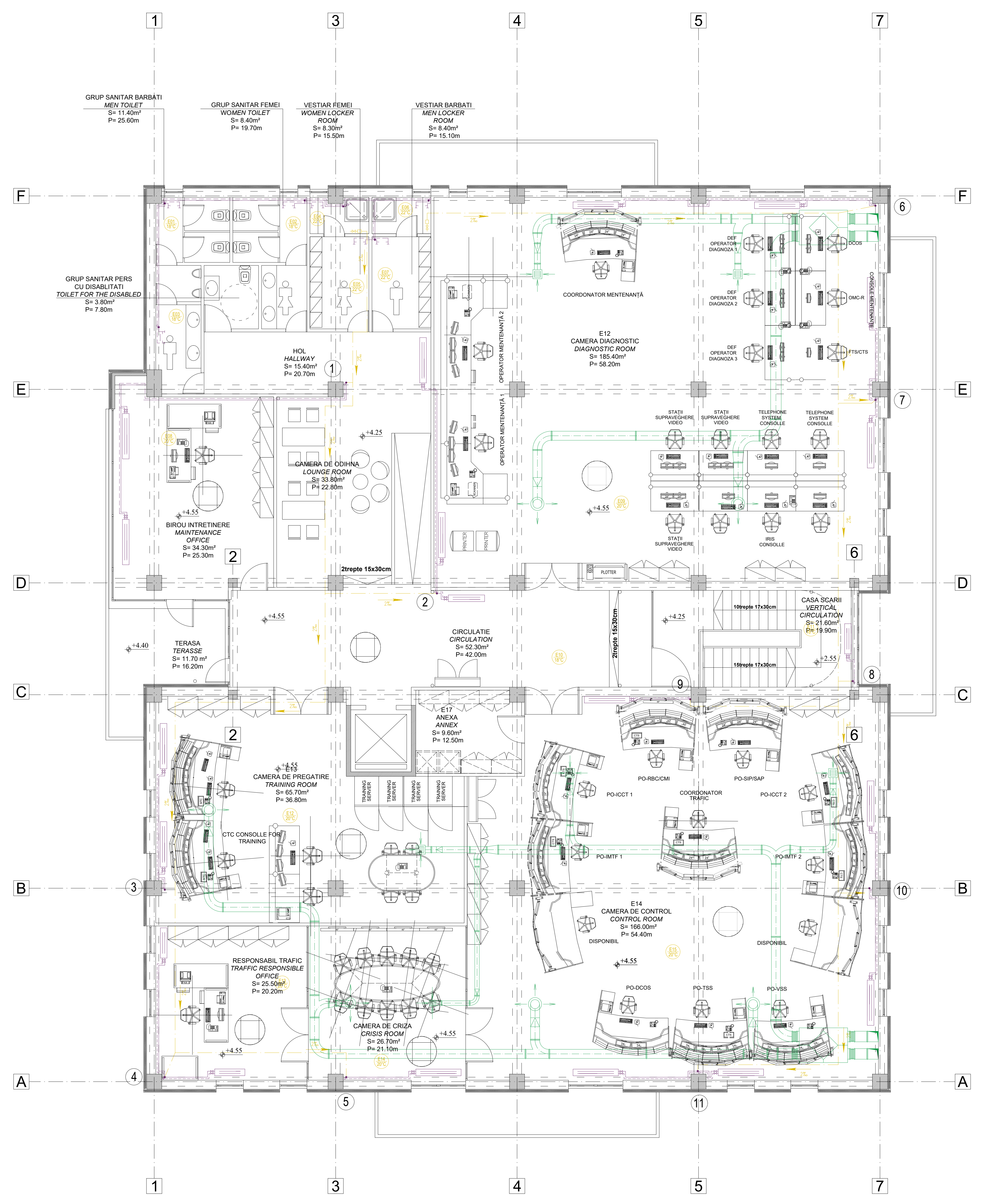

CHILLER
CHILLER
1
3
4
5
7
F
E
D
C
B
A
P18
ACCES
ACCES
S=14.40 m²
P= 21.80 m
VEI VEI
CZ
CZ
P01 18°C
CENTRALA TERMICA +
CENTRALA CONDITIONARE
HEATING PLANT +
CONDITIONING PLANT
S= 64.80m²
P= 36.60m
DISTRIBUITOR DISTRIBUTOR
COLECTOR COLLECTOR
SIDEWALK
GRUP SANITAR
TOILET
S= 4.20m²
P= 8.40m
HOL
HALLWAY
S= 2.20m²
P= 6.00m
P02 18°C
PLATFORMA ELEVATOARE
ELEVATOR PLATFORM
3trepte 17x30cm
ACCES PRINCIPAL
MAIN ACCES
S= 21.00 m²
P= 22.40m
P03 20°C
DEF 1
DEF 2
P08
Dispecer Energetic Feroviar
S= 55.10m²
P= 31.20m
ANTI FIRE
P06 15°C
GRUP ELECTROGEN
DIESEL GENERATOR
S= 71.00m²
P= 38.40m
±0.00
P07 20°C
TRANSFORMATOR
MT TRANSFORMER ROOM
S= 36.20m²
P=24.10m
P08 16°C
ACUMULATORI
BATTERY ROOM
S= 36.20m²
P=24.10m
BATTERY SWITCHBOARD
-0.56
-0.51
ACCES PRINCIPAL
MAIN ENTRANCE
VESTIBUL
HALL
S= 23.60 m²
P= 21.60m
P04 18°C
PORTI BIDIRECTIONALE
BIDIRECTIONAL GATE
CIRCULATIE
CIRCULATION
S= 24.10 m²
P= 24.60m
CASA SCARII
VERTICAL
CIRCULATION
S= 20.40 m²
P= 19.10M
15trepte 17x30cm
VESTIBUL
HALL
S= 5.30 m²
P= 9.70M
P09 18°C
ACCES SECUNDAR
SECONDARY ACCES
S=27.30 m²
P= 36.90 m
ACCES SECUNDAR
SECONDARY ACCES
SUPRAVEGHERE CLADIRE
BUILDING SURVEILLANCE
S= 15.90 m²
P= 17.90m
HP = 90cm
P05 20°C
DC1
DC2
DC2
DC1
DC2
RELEE TTR
EQUIPMENTS ROOM
S= 125.60 m²
P= 50.00m
ELECTROALIMENTARE
POWER SUPPLY ROOM
S= 148.20 m²
P= 51.80m
ACCES
ACCES
S=14.40 m²
P= 21.80 m
1
2
3
4
5
6
7
8
9
10
11


1
3
4
5
7
F
E
D
C
B
A
GRUP SANITAR BARBATI
MEN TOILET
S= 11.40m²
P= 25.60m
GRUP SANITAR FEMEI
WOMEN TOILET
S= 8.40m²
P= 19.70m
VESTIAR FEMEI
WOMEN LOCKER ROOM
S= 8.30m²
P= 15.50m
VESTIAR BARBATI
MEN LOCKER ROOM
S= 8.40m²
P= 15.10m
GRUP SANITAR PERS CU DISABLITATI
TOILET FOR THE DISABLED
S= 3.80m²
P= 7.80m
E01 18°C
E02 18°C
E03 18°C
E04 22°C
E05 22°C
E06 22°C
E07 22°C
HOL
HALLWAY
S= 15.40m²
P= 20.70m
COORDONATOR MENTENANȚĂ
OPERATOR MENTENANȚĂ 2
OPERATOR MENTENANȚĂ 1
E12
CAMERA DIAGNOSTIC
DIAGNOSTIC ROOM
S= 185.40m²
P= 58.20m
DEF OPERATOR DIAGNOZA 1
DEF OPERATOR DIAGNOZA 2
DEF OPERATOR DIAGNOZA 3
DCOS
OMC-R
FTS/CTS
CONSOLE MENTENANȚĂ
STAȚII SUPRAVEGHERE VIDEO
TELEPHONE SYSTEM CONSOLLE
IRIS CONSOLLE
PRINTER
PLOTTER
E09 20°C
+4.55
E08 20°C
BIROU INTRETINERE
MAINTENANCE OFFICE
S= 34.30m²
P= 25.30m
CAMERA DE ODIHNA
LOUNGE ROOM
S= 33.80m²
P= 22.80m
+4.25
2trepte 15x30cm
TERASA
TERASSE
S= 11.70 m²
P= 16.20m
+4.40
CIRCULATIE
CIRCULATION
S= 52.30m²
P= 42.00m
E10 18°C
2trepte 15x30cm
10trepte 17x30cm
15trepte 17x30cm
CASA SCARII
VERTICAL
CIRCULATION
S= 21.60m²
P= 19.90m
+2.55
E17
ANEXA
ANNEX
S= 9.60m²
P= 12.50m
TRAINING SERVER
E13
CAMERA DE PREGATIRE
TRAINING ROOM
S= 65.70m²
P= 36.80m
E12 20°C
CTC CONSOLLE FOR TRAINING
PO-RBC/CMI
PO-SIP/SAP
PO-ICCT 1
COORDONATOR TRAFIC
PO-ICCT 2
PO-IMTF 1
PO-IMTF 2
E14
CAMERA DE CONTROL
CONTROL ROOM
S= 166.00m²
P= 54.40m
DISPONIBIL
DISPONIBIL
E15 20°C
PO-DCOS
PO-TSS
PO-VSS
RESPONSABIL TRAFIC
TRAFFIC RESPONSIBLE OFFICE
S= 25.50m²
P= 20.20m
CAMERA DE CRIZA
CRISIS ROOM
S= 26.70m²
P= 21.10m
E14 20°C
2‰
1
2
3
4
5
6
7
8
9
10
11

LEGENDA

————	Conducta din otel, agent termic tur.
– – – –	Conducta din otel, agent termic retur.
—·—	Conducta de aerisire

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:16,6/107 kW la temperatura tur/retur 80/60°C.
P1 Pompa injectie cazan, debit : 3 mc/h, inaltime de pompare : 1,0 mCA la turatie medie, putere electrica : 150 W, alimentare monofazata.
P2 Pompa circulatie agent termic apa calda 80/60°C, pentru circuitul de incalzire cu ventiloconvectoare, debit : 4,0 mc/h, inaltime de pompare : 5,4 mCA la turatie medie, putere electrica : 200 W, alimentare trifazata.
P3 Pompa circulatie agent termic apa calda 80/60°C, pentru circuitul de incalzire cu radiatoare, debit : 1,0 mc/h, inaltime de pompare : 1,5 mCA la turatie medie, putere electrica : 100 W, alimentare monofazata.
P4 Pompa circulatie agent termic apa calda 80/60°C, pentru boiler, debit : 3,5 mc/h, inaltime de pompare : 1,0 mCA la turatie medie, putere electrica : 200 W, alimentare monofazata.
VEI Vas expansiune inchis cu membrana, 100 litri, 6 bar.
CF-H/Nr. El. Radiatoare din aluminiu cu miez de otel(bimetal), tipul elementului-inaltimea/nr. de elemente.
VCPd - Ventiloconvector de pardoseala
Qi/r - Putere incalzire/racire instalata
VA Vas de aerisire
RG Robinet de golire.
CS Clapeta de sens.
SS Supapa de siguranta.
STE Sonda de temperatura exterioara.
P01 - Incaperea 01-plan parter
20°C - Temperatura interioara de calcul
①,②... Coloane incalzire/racire
CH Chiller preparare apa racita 7-12 grd. C, functionand cu freon ecologic R410A, putere de racire: 309KW, putere electrica: 130KW, alimentare 400V/50Hz,echipat cu modul hidraulic complet si accesorii.
DC1 Dulap de climatizare, functionand cu apa racita, aspiratie frontala inferioara si refulare frontala superioara, echipat cu ventil cu 3 cai modulator, grile, plenum si accesorii, capacitate de racire: 22,8KW, putere electrica: 2KW, alimentare 400V/50Hz
DC2 Dulap de climatizare, functionand cu apa racita, aspiratie frontala inferioara si refulare frontala superioara, echipat cu ventil cu 3 cai modulator, grile, plenum si accesorii, capacitate de racire: 45,3KW, putere electrica: 3KW, alimentare 400V/50Hz
A1 Anemostat circular din aluminiu, Dext = 440mm, Dracord = 300mm
A2 Anemostat circular din aluminiu, Dext = 340mm, Dracord = 200mm
GA1 Grila de aspiratie din aluminiu 200x200mm, inclusiv plenum izolat 200x200 cu racordare laterala D=150mm
GA2 Grila de aspiratie din aluminiu 300x300mm, inclusiv plenum izolat 300x300 cu racordare laterala D=200mm
CTA Minicentrala de tratare aer in pompa de caldura cu recuperator, montaj in plafonul fals, cu aport de aer proaspat, echipata cu modul complet de automatizare si control, trei trepte de viteza, debit: 1000 / 1500 / 2000 mc/h, capacitate de incalzire: 10,6 / 14,8 / 19,7 KW, capacitate de racire: 6,7 / 10,2 / 13 KW, putere electrica: 8KW, alimentare 400V/50Hz
RPS Rama cu plasa de sarma

LEGEND

————	*Steel pipe for heat carrier supply*
– – – –	*Steel pipe for heat carrier return*
—·—	*Vent pipe*

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 :16,6/107 kW at supply/return temperature 80/60°C.
P1 Injection pump, flow rate: 3 m3/h, delivery lift: 1,0 mCA at medium speed, electrical power: 150 W, single-phased supply.
P2 Hot water heat carrier circulating pump 80/60°C for heating circuit with fan coils, flow rate: 4 m3/h, delivery lift: 5,4 mCA at medium speed, electrical power: 200 W, three-phased supply.
P3 Hot water heat carrier circulating pump 80/60°C for heating circuit with radiators, flow rate: 1 m3/h, delivery lift: 1,5 mCA at medium speed, electrical power: 100 W, single-phased supply.
P4 Hot water heat carrier circulating pump 80/60°C for boiler, flow rate: 3,5 m3/h, delivery lift: 1,0 mCA at medium speed, electrical power: 200 W, single-phased supply.
VEI Diaphragm expansion vessel, 100 l, 6 bars
CF-H/Nr. El. Aluminum radiators with steel core (bimetallic), element type -height/no. of elements.
VCPd - Floor fan coil
Qi/r - Power heating/cooling installed
VA Vessel ventilation
RG Discharge cock
CS Direction valve
SS Safety valve
STE Outdoor temperature sensor.
P01 - Room 01-groundfloor plan
20°C - indoor calculation temperature
①,②... Heating/cooling columns
CH Chiller for cold water preparation 7-12 grd. C, with ecological freon R410A, cooling capacity: 309KW, electric power: 130KW, supply 400V/50Hz, provided with full hydraulic module and accerories.
DC1 Air conditioning cabinet, cold water operation, frontal lower suction and frontal upper delivery, provided with 3-way modulating valve, grids, plenum space and accesories, cooling capacity: 22,8KW, electric power: 2KW, supply 400V/50Hz
DC2 Air conditioning cabinet, cold water operation, frontal lower suction and frontal upper delivery, provided with 3-way modulating valve, grids, plenum space and accesories, cooling capacity: 45,3KW, electric power: 3KW, supply 400V/50Hz
A1 Aluminium circular diffuser, Dext = 440mm, Dconnection = 300mm
A2 Aluminium circular diffuser, Dext = 340mm, Dconnection = 200mm
GA1 Aluminium suction grid 200x200mm, including isolated plenum space 200x200 with lateral connection D=150mm
GA2 Aluminium suction grid 300x300mm, including isolated plenum space 300x300 with lateral connection D=200mm
CTA Air treatment mini-station in heat pump with economizer mounted in false ceilling, with fresh air intake, equiped with full automation and control module, three speed levels, usefull efficiency : 1000 / 1500 / 2000 mc/h, heating capacity: 10,6 / 14,8 / 19,7 KW, cooling capacity: 6,7 / 10,2 / 13 KW, elerctric power: 8KW, supply 400V/50Hz
RPS Wire net frame

NOTA: In perioada de iarna, vanele V1, V1' si V4 se vor inchide, si se vor deschide vanele V2, V2' si V3
In perioada de vara, vanele V2, V2' si V3 se vor inchide, si se vor deschide vanele V1, V1' si V4

NOTE: *During the winter time, V1, V1', V4 valves would be in close position, and V2, V2', V3 valves would be in open position.*
During the summer time, V2, V2',V3 valves would be in close position, and V1, V1', V4 valves would be in open position.

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

CONSULTANT / CONSULTANT

Faza *Phase*	Pozitia *Position*	Nume *Name*	Data *Date*	Semnatura *Signature*
Aprobat Approved	Manager de Proiect Project Manager	Sergio MENICHINI	09.2020	
Verificat Checked	Expert Cheie Key Expert	Pino AMODIO	09.2020	
Întocmit Elaborated	Proiectant Designer	Pino AMODIO Tetiana KRAVICH	09.2020	

SUBCONSULTANT / SUBCONSULTANT

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible			
Întocmit Elaborated	Proiectant Designer			

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