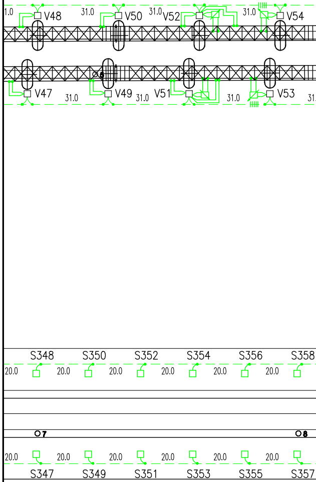
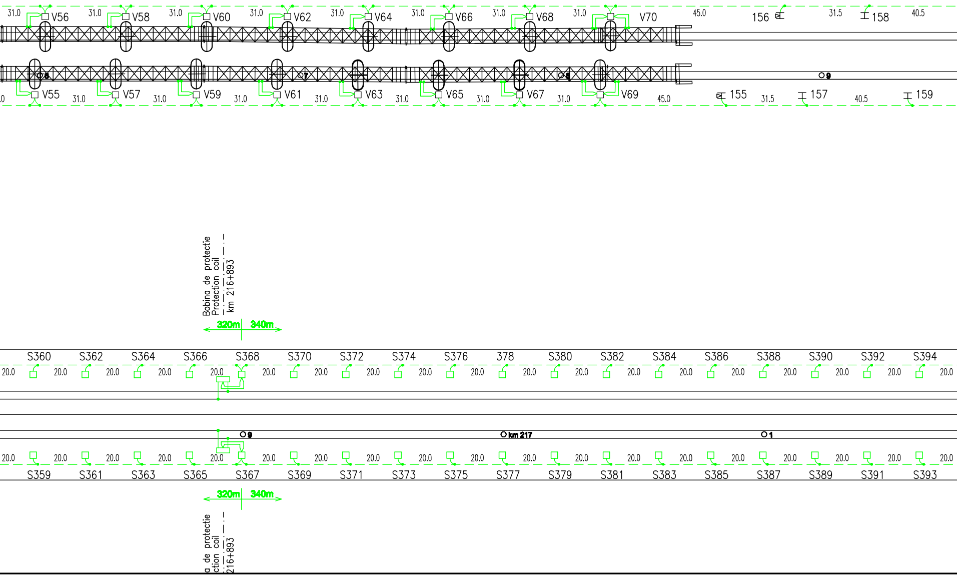
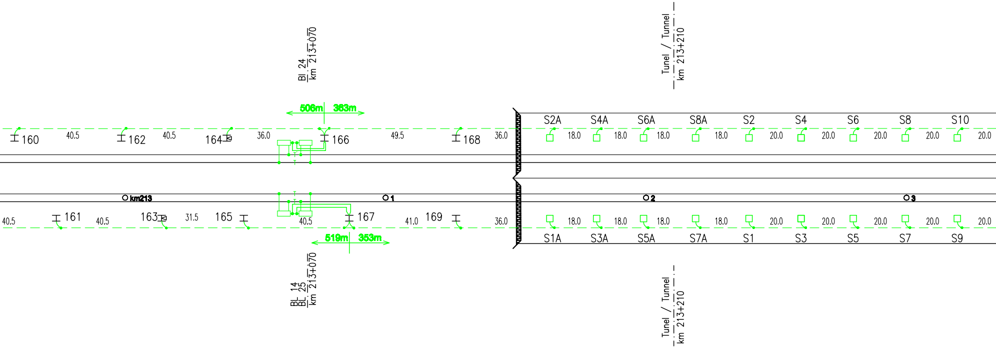
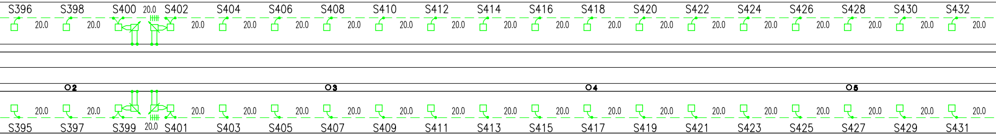
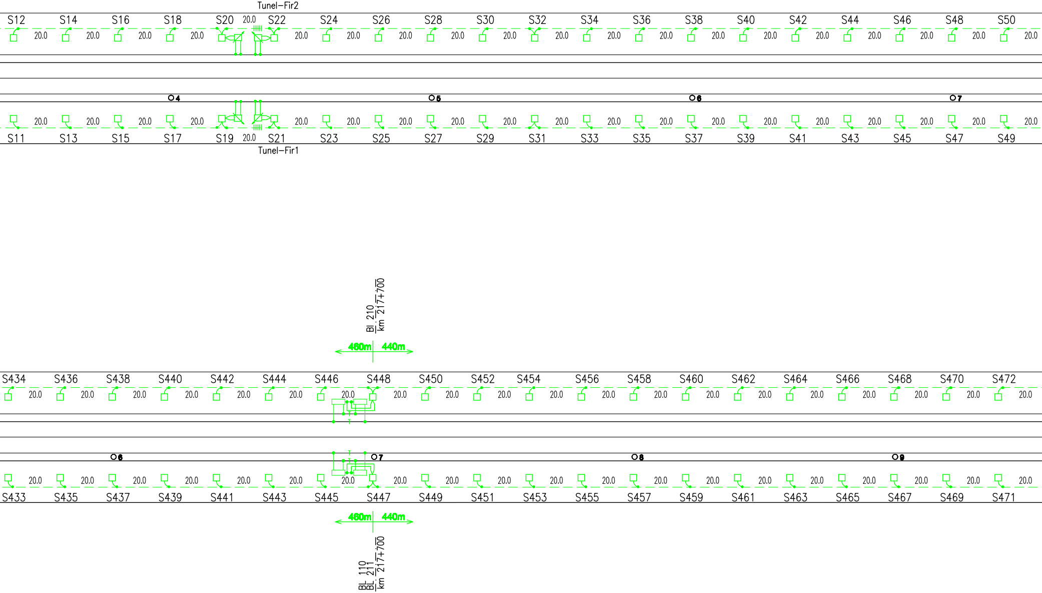


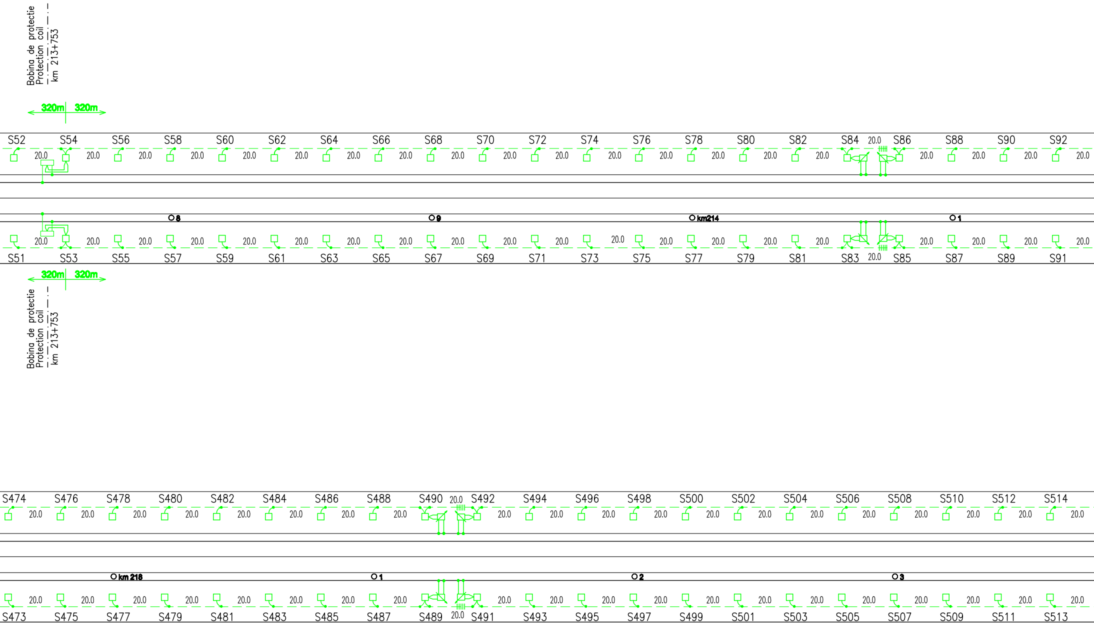
1.0
V48
31.0
V50
31.0
V52
31.0
V54
V47
31.0
V49
31.0
V51
31.0
V53
31.
S348
S350
S352
S354
S356
S358
20.0
20.0
20.0
20.0
20.0
20.0
7
8
20.0
20.0
20.0
20.0
20.0
20.0
S347
S349
S351
S353
S355
S357


31.0
V56
V58
V60
V62
V64
V66
V68
V70
45.0
156
31.5
158
40.5
V55
V57
V59
V61
V63
V65
V67
V69
155
157
159
6
7
8
9
Bobina de protectie
Protection coil
km 216+893
320m
340m
S360
S362
S364
S366
S368
S370
S372
S374
S376
378
S380
S382
S384
S386
S388
S390
S392
S394
20.0
9
km 217
1
S359
S361
S363
S365
S367
S369
S371
S373
S375
S377
S379
S381
S383
S385
S387
S389
S391
S393
a de protectie
ction coil
216+893


Bl 24
km 213+070
Tunel / Tunnel
km 213+210
506m
363m
160
40.5
162
40.5
164
36.0
166
49.5
168
36.0
S2A
18.0
S4A
18.0
S6A
18.0
S8A
18.0
S2
20.0
S4
20.0
S6
20.0
S8
20.0
S10
20.0
km213
1
2
3
40.5
161
40.5
163
31.5
165
40.5
167
41.0
169
36.0
18.0
18.0
18.0
18.0
20.0
20.0
20.0
20.0
20.0
S1A
S3A
S5A
S7A
S1
S3
S5
S7
S9
519m
353m
BL 14
BL 25
km 213+070
Tunel / Tunnel
km 213+210


S396
S398
S400
20.0
S402
S404
S406
S408
S410
S412
S414
S416
S418
S420
S422
S424
S426
S428
S430
S432
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
2
3
4
5
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
20.0
S395
S397
S399
20.0
S401
S403
S405
S407
S409
S411
S413
S415
S417
S419
S421
S423
S425
S427
S429
S431


Tunel–Fir2
S12 S14 S16 S18 S20 S22 S24 S26 S28 S30 S32 S34 S36 S38 S40 S42 S44 S46 S48 S50
20.0
O4 O5 O6 O7
S11 S13 S15 S17 S19 S21 S23 S25 S27 S29 S31 S33 S35 S37 S39 S41 S43 S45 S47 S49
Tunel–Fir1
BL 210
km 217+700
460m 440m
S434 S436 S438 S440 S442 S444 S446 S448 S450 S452 S454 S456 S458 S460 S462 S464 S466 S468 S470 S472
O6 O7 O8 O9
S433 S435 S437 S439 S441 S443 S445 S447 S449 S451 S453 S455 S457 S459 S461 S463 S465 S467 S469 S471
460m 440m
BL 110
BL 211
km 217+700


Bobina de protectie
Protection coil
km 213+753
320m
320m
S52
S54
S56
S58
S60
S62
S64
S66
S68
S70
S72
S74
S76
S78
S80
S82
S84
S86
S88
S90
S92
20.0
8
9
km214
1
S51
S53
S55
S57
S59
S61
S63
S65
S67
S69
S71
S73
S75
S77
S79
S81
S83
S85
S87
S89
S91
320m
320m
Bobina de protectie
Protection coil
km 213+753
S474
S476
S478
S480
S482
S484
S486
S488
S490
S492
S494
S496
S498
S500
S502
S504
S506
S508
S510
S512
S514
km 218
1
2
3
S473
S475
S477
S479
S481
S483
S485
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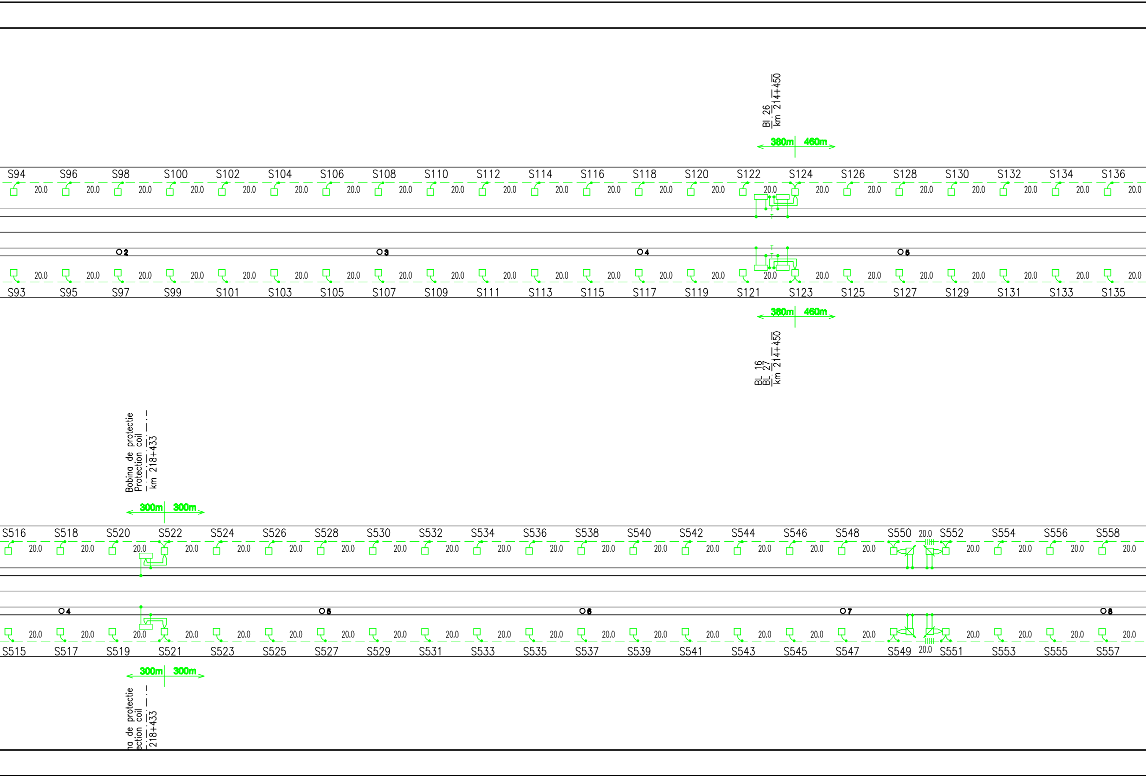
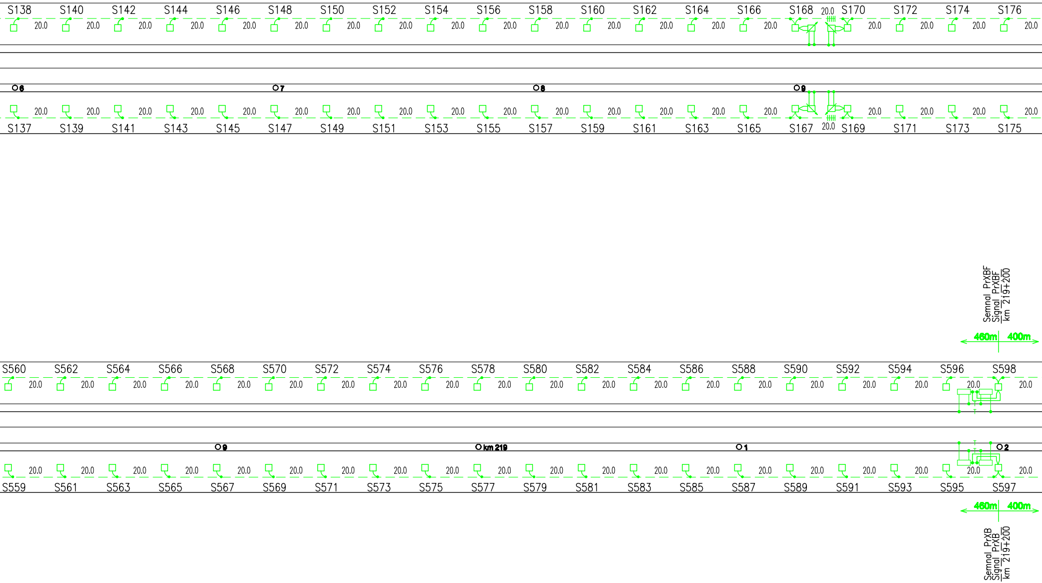
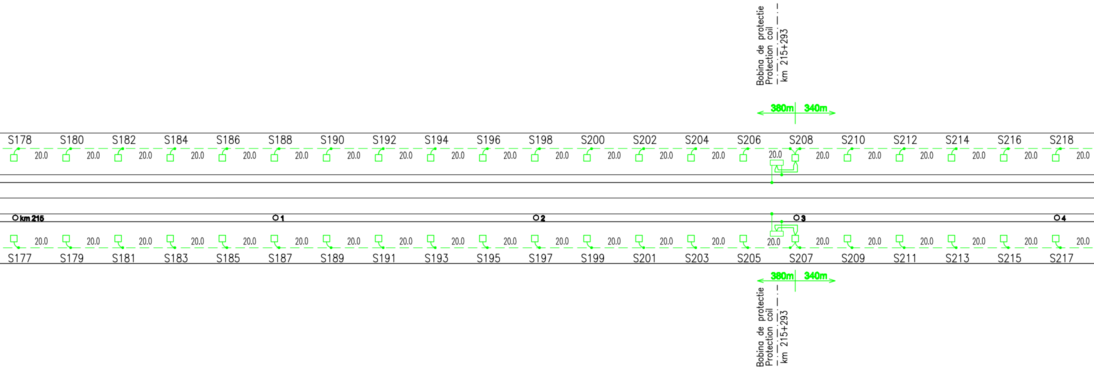
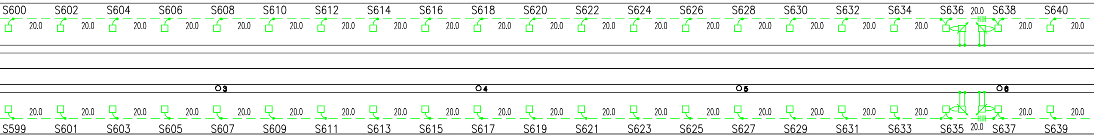
S491
S493
S495
S497
S499
S501
S503
S505
S507
S509
S511
S513


BI 26
km 214+450
380m
460m
S94
S96
S98
S100
S102
S104
S106
S108
S110
S112
S114
S116
S118
S120
S122
S124
S126
S128
S130
S132
S134
S136
20.0
O2
O3
O4
O5
S93
S95
S97
S99
S101
S103
S105
S107
S109
S111
S113
S115
S117
S119
S121
S123
S125
S127
S129
S131
S133
S135
380m
460m
BL 16
BL 27
km 214+450
Bobina de protectie
Protection coil
km 218+433
300m
300m
S516
S518
S520
S522
S524
S526
S528
S530
S532
S534
S536
S538
S540
S542
S544
S546
S548
S550
S552
S554
S556
S558
20.0
O4
O5
O6
O7
O8
S515
S517
S519
S521
S523
S525
S527
S529
S531
S533
S535
S537
S539
S541
S543
S545
S547
S549
S551
S553
S555
S557
300m
300m
na de protectie
ection coil
218+433


S138
S140
S142
S144
S146
S148
S150
S152
S154
S156
S158
S160
S162
S164
S166
S168
S170
S172
S174
S176
20.0
6
7
8
9
S137
S139
S141
S143
S145
S147
S149
S151
S153
S155
S157
S159
S161
S163
S165
S167
S169
S171
S173
S175
Semnal PrXBF
Signal PrXBF
km 219+200
460m
400m
S560
S562
S564
S566
S568
S570
S572
S574
S576
S578
S580
S582
S584
S586
S588
S590
S592
S594
S596
S598
9
km 219
1
2
S559
S561
S563
S565
S567
S569
S571
S573
S575
S577
S579
S581
S583
S585
S587
S589
S591
S593
S595
S597
460m
400m
Semnal PrXB
Signal PrXB
km 219+200


Bobina de protectie
Protection coil
km 215+293
360m
340m
S178
S180
S182
S184
S186
S188
S190
S192
S194
S196
S198
S200
S202
S204
S206
S208
S210
S212
S214
S216
S218
20.0
km 215
1
2
3
4
S177
S179
S181
S183
S185
S187
S189
S191
S193
S195
S197
S199
S201
S203
S205
S207
S209
S211
S213
S215
S217
360m
340m
Bobina de protectie
Protection coil
km 215+293


S600
S602
S604
S606
S608
S610
S612
S614
S616
S618
S620
S622
S624
S626
S628
S630
S632
S634
S636
S638
S640
20.0
3
4
5
6
S599
S601
S603
S605
S607
S609
S611
S613
S615
S617
S619
S621
S623
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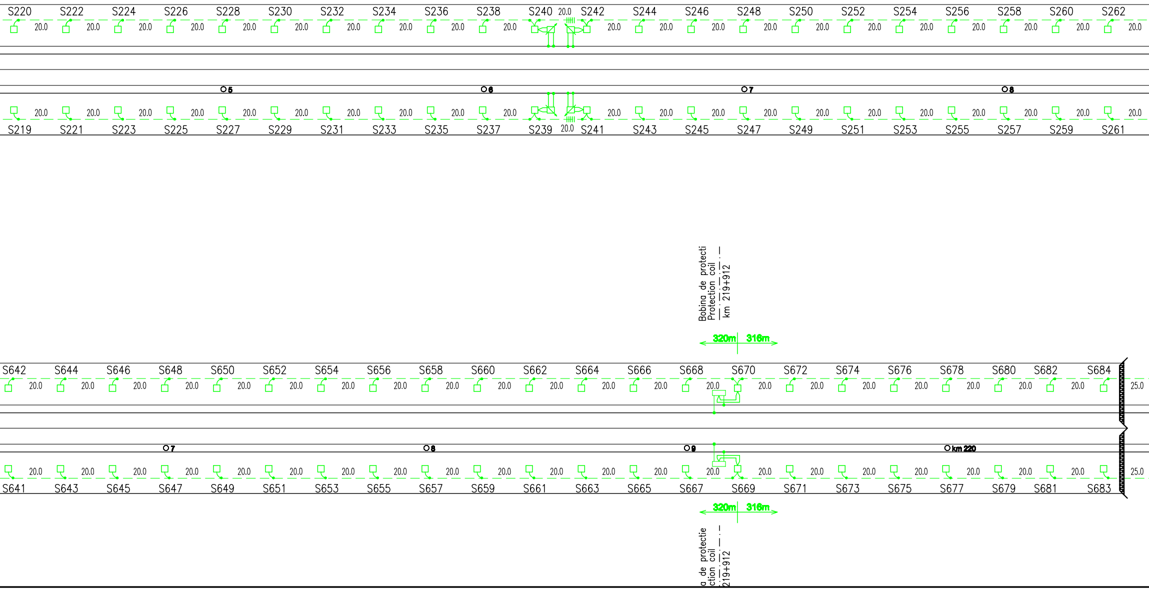
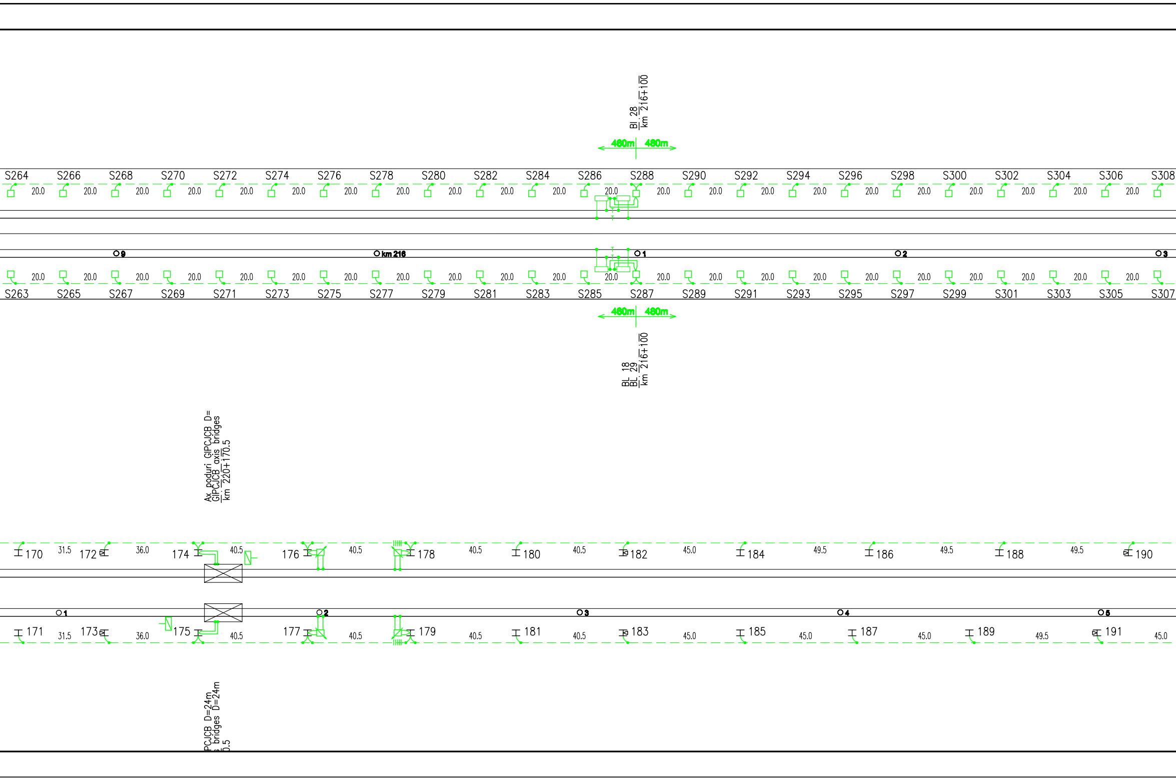
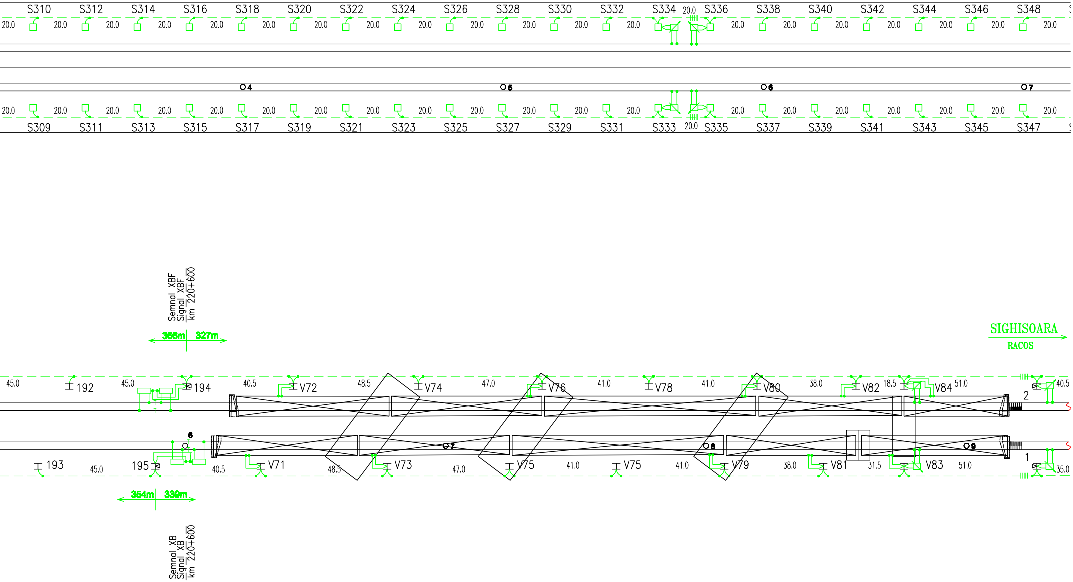
S631
S633
S635
S637
S639


S220 S222 S224 S226 S228 S230 S232 S234 S236 S238 S240 S242 S244 S246 S248 S250 S252 S254 S256 S258 S260 S262
20.0
5
6
7
8
S219 S221 S223 S225 S227 S229 S231 S233 S235 S237 S239 S241 S243 S245 S247 S249 S251 S253 S255 S257 S259 S261
Bobina de protecti
Protection coil
km 219+912
320m
316m
S642 S644 S646 S648 S650 S652 S654 S656 S658 S660 S662 S664 S666 S668 S670 S672 S674 S676 S678 S680 S682 S684
25.0
7
8
9
km 220
S641 S643 S645 S647 S649 S651 S653 S655 S657 S659 S661 S663 S665 S667 S669 S671 S673 S675 S677 S679 S681 S683
a de protectie
ction coil
219+912


Bl 28
km 216+100
460m
460m
S264 S266 S268 S270 S272 S274 S276 S278 S280 S282 S284 S286 S288 S290 S292 S294 S296 S298 S300 S302 S304 S306 S308
20.0
9
km 216
1
2
3
S263 S265 S267 S269 S271 S273 S275 S277 S279 S281 S283 S285 S287 S289 S291 S293 S295 S297 S299 S301 S303 S305 S307
460m
460m
BL 18
BL 29
km 216+100
Ax poduri GIPCJCB D=
GIPCJCB axis bridges
km 220+170.5
170 172 174 176 178 180 182 184 186 188 190
31.5 36.0 40.5 40.5 40.5 40.5 45.0 49.5 49.5 49.5
1 2 3 4 5
171 173 175 177 179 181 183 185 187 189 191
31.5 36.0 40.5 40.5 40.5 40.5 45.0 45.0 45.0 49.5 45.0
PCJCB D=24m
s bridges D=24m
0.5



S310
S312
S314
S316
S318
S320
S322
S324
S326
S328
S330
S332
S334
S336
S338
S340
S342
S344
S346
S348
20.0
S309
S311
S313
S315
S317
S319
S321
S323
S325
S327
S329
S331
S333
S335
S337
S339
S341
S343
S345
S347
4
5
6
7
Semnal XBF
Signal XBF
km 220+600
366m
327m
SIGHISOARA
RACOS
45.0
192
45.0
194
40.5
V72
48.5
V74
47.0
V76
41.0
V78
41.0
V80
38.0
V82
18.5
V84
51.0
40.5
2
6
193
45.0
195
40.5
V71
48.5
V73
7
47.0
V75
41.0
V75
41.0
8
V79
38.0
V81
31.5
V83
51.0
9
1
35.0
354m
339m
Semnal XB
Signal XB
km 220+600

LEGENDA / LEGEND:

ϟ	Linie c.f. electrificată Electrified railway
	Joantă izolată Insulated rail joint
– – – –	Conductor colector din oțel-aluminiu 95/15 mmp Earthing conductor steel-aluminum 95/15 sq mm
——	Conductor din bandă de otel Ø 10 mm galvanizat Galvanised steel conductor Ø 10 mm
⊗	Stalp de beton echipat cu corp de iluminat Concrete pole equipped with lighting unit
	Priza de pământ Earth plate
OLALN 95/15mmp	Legarea colectivă a stâlpului LC la mediana bobinei de joantă prin conductorul de protecție OLALN 95/15mmp / CL pole collective connection through OLALN 95/15mmp protection conductor at the impedance coil mid-point
OLALN 95/15mmp	Legarea simplă a stâlpului LC la conductorul de protecție OLALN95/15mmp Simple connection of CL pole at OLALN95/15mmp protection conductor
OLALN 95/15mmp	Legarea dublă a stâlpului LC la conductorul de protecție OLALN95/15mmp Double connection of CL pole at OLALN95/15mmp protection conductor
An	Ancora pentru conductorul de protecție OLALN 95/15mmp Anchor for OLALN 95/15mmp protection conductor
‒┼┼┼┼‒	Izolator de separare electrică a conductorului de protecție Sectionning insulator of over-head protective conductor
x[m] | y[m]	x, y - Lungimile conductorului de protecție x, y - Overhead protective conductor lenghts
	Bobina de joantă Impedance coil
	Bobina de protecție Protection coil
	Separator monopolar de exterior Outdoor single phase disconnector
	Transformator Transformer
	Circuit de cale monofilar Single-track circuit
	Circuit de cale bifilar Double-track circuit
	Bobina de joantă CED Joint coil CED
	Funie de cupru de 50mmp Copper cord 50mmp
	Subtraversare linie c.f. țn tub de cauciuc Railway lines under-crossing by rubber tube
	Placa avertizoare "STAȚIONAREA PE POD INTERZISĂ" Marker "Staying on the bridge is not permised"
	Indicator cerc pentru restricție gabarit și plăcuță suplimentară pentru indicarea distanței Circle indicator for gauge restriction and additional plate to indicate distance

NOTA / NOTE:

SEMNIFICAȚIA CULORILOR FOLOSITE ÎN PREZENTAREA PLANULUI DE PROTECTIE ESTE URMĂTOAREA:

- verde - elemente noi ale instalatiei de protectie
- negru - elemente noi care aparțin altor specialități
- gri - elemente existente ale planului de situație

THE SIGNIFICATION OF COLORS USED TO PRESENT THE PROTECTION DRAWING:

- green - new elements of the protection installations
- black - new elements of others specialities
- grey - existing elements of the layout plan

- balustradele podurilor si podetelor c.f. se vor proteja conform ID 33
- the ballustrades of the bridges and culverts at will be protected according to ID 33
- stalpii de iluminat de pe peroane se vor proteja conform ID 33
- the lighting poles on the platforms will be protected according to ID 33

LISTA DE COMPONENTA / ITEM

REF / ITEM	DENUMIRE REFERINTA / ITEM DESIGNATION	REFERINTA DWG / DWG REFERENCE
	Stâlp de beton protejat individual Individual protected concrete pole	
	Stâlp de metal protejat individual Individualy protected metallic pole	
	Stâlp de metal protejat colectiv Collectivelly protected metallic pole	
	Stâlp de beton protejat colectiv Collectivelly protected concrete pole	
OLALN 95/15mmp	Conductor colector din oțel-aluminiu 95/15 mmp Earthing conductor steel-aluminum 95/15 sq mm	
An	Ancoră pentru conductorul de protecție OLALN 95/15mmp Anchor for OLALN 95/15mmp protection conductor	
	Legatură dublă la mediana bobinei de joantă Double connection at mid-point of coil	
	Indicator restricție gabarit Restriction indicator gauge	
	Bobina de protecție Protection coil	
⏚	Priza de pământ Earth plate	
	Interstițiu de scânteiere Sparking gap	
Ax c.f. Ax c.f.	Panouri protecție Protection panel	
‒┼┼┼┼‒	Izolator de separare electrică Sectionning insulator	
	Placa avertizoare"STATIONAREA PE POD INTERZISA" Marker "Staying on the bridge is not permised"	
	Subtraversare linie c.f. în tub de cauciuc Railway lines under-crossing by rubber tube	
	Prinderi conductor colector in tunel Fastening device for earth conductor in the tunnel	

LIST
CANTITATE / QUANTITY
-
-
296 pcs
153pcs
33.550m
6 pcs
24 pcs
-
20 pcs
-
86 pcs.
-
42 pcs
-
4
692 pcs

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

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANȚAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

CLIENT / CLIENT

CFR

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	Şef proiect Project manager	R. Liuzza	12.2011	
Aprobat Approved	Coordonator Secțiune 1 Section 1 Coordinator	C. Gambelli	12.2011	
Verificat Checked	Expert Verificator Checking Expert	G. Buffarini	12.2011	

SUBCONTRACTANT / SUBCONTRACTOR

AREX COMPANY

Aprobat Approved	Responsabil Subcontractant Subcontractor Responsible	A.Stanciu - Dinulescu	12.2011	
Întocmit Elaborated	Proiectant Designer	A. Teutu	12.2011	

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

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

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

Denumire desen / Drawing Title :

Interval Apața-Racoş / Apața-Racoş Section
Protecția instalațiilor din cale şi vecinătate / Protection of track and proximity installations

Codificare / Codification System	Scara / Scale 1:1000	LOT / LOT	Nr. / No 02 / 02

E A 5 1 | 0 1 | C | 1 0 | L 7 | P I | 0 0 | 1 | 0 | 0 0 1 | 0

297x4900