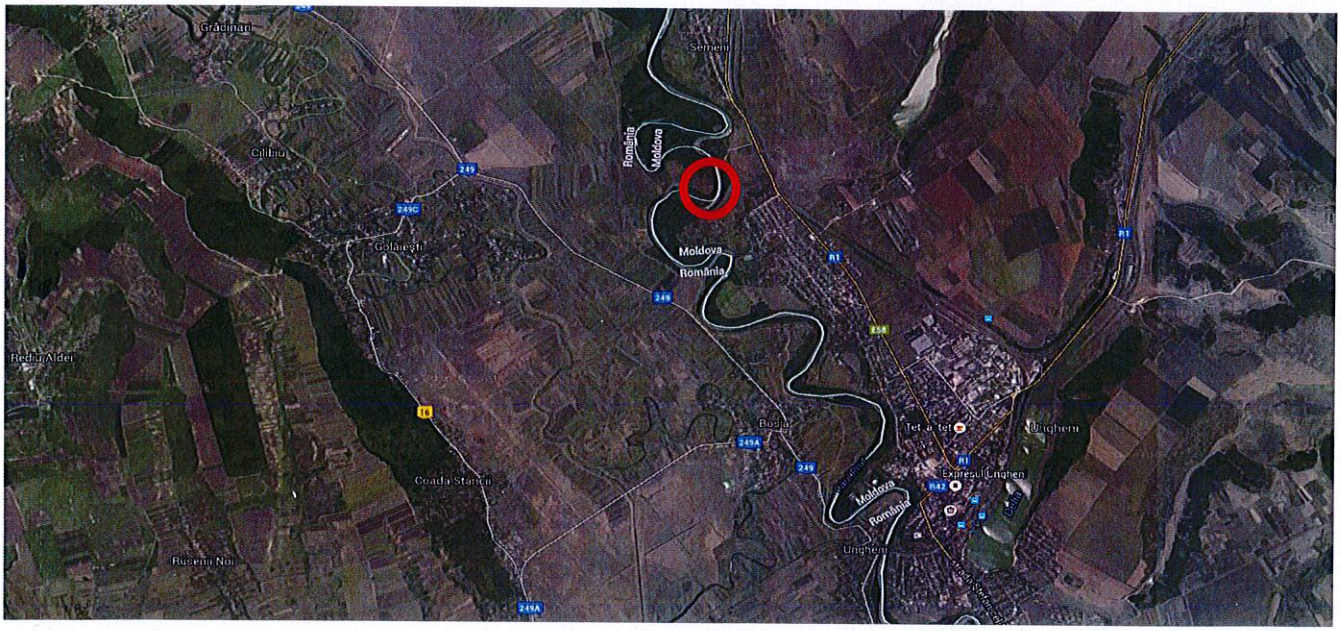
UNIUNEA EUROPEANĂ | GUVERNUL ROMÂNIEI | CNADNR S.A. | Instrumente Structurale 2007-2013 | PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT TRANS Mobilitate în România. Conexiuni cu Europa.

COMPANIA NATIONALA DE AUTOSTRAZI SI DRUMURI NATIONALE DIN ROMANIA S.A. (CNADNR S.A.)

Proiect co-finantat de Uniunea Europeana prin Fondul European de Dezvoltare Regionala

Elaborare Studiu de Fezabilitate pentru "Pod peste Prut la Ungheni"

92/25423/22.04.2015



STUDIU DE FEZABILITATE – RAPORT FINAL
VOL. 4.3. STUDIU TOPOGRAFIC

Consultant : S.C. Expert Proiect 2002 S.R.L

Subcontractant: S.C. TOPCADEX 99 S.R.L.

Octombrie 2015

BENEFICIAR:	**COMPANIA NATIONALA DE AUTOSTRAZI SI DRUMURI NATIONALE DIN ROMANIA S.A. (CNADNR S.A.)**
CONTRACT NR:	**92/25423/22.04.2015**
COD PROIECT:	**P 345**
OBIECTIV:	**Elaborare Studiu de Fezabilitate pentru „Pod peste Prut la Ungheni"**
VOLUM:	**Vol. 4.3. Studiu Topografic**
VERSIUNE:	**Forma finala**
COD VOLUM:	**P345/V04/03 rev. 0**

Nume — Semnatura

Director General Expert Proiect 2002 — Cristian BORBELI

Inginer topograf — Ioan FOLFA

Consultant : S.C. Expert Proiect 2002 S.R.L

Subcontractant: S.C. TOPCADEX 99 S.R.L.

Octombrie 2015

Colectiv de elaborare

Pozitia	Nume	Semnatura
Inginer geodez – responsabil lucrare	Ioan FOLFA	
Inginer geodez – realizare masuratori	George VOINEA	
Inginer geodez – intocmire documentatie	Catalin FOLFA	

SC TOPCADEX-99 SRL *J40/9366/1999*

BUCUREŞTI *Cod fiscal R12335000*

Str. 23 August, Nr. 14, Bl. P100, Sc. 1 *Cont. RO44.RNCB.0073.0499.7479.0001*

Parter, Ap. 1, Oraş OTOPENI, Jud. Ilfov *BCR, Sector 2,Bucureşti*

Tel/Fax 021/3110214; Mob. 0722-238831 *e-mail:* topcadex99@yahoo.com

DOCUMENTATIE TOPOGRAFICA

PENTRU

INTOCMIREA PLANULUI DE SITUATIE SCARA 1:500

AVÂND CA SCOP

ELABORARE STUDIU DE FEZABILITATE PENTRU

"POD PESTE PRUT LA UNGHENI"

JUDETUL IASI

BENEFICIAR:

CNADNR S.A.

EXECUTANT:

S.C. TOPCADEX-99 – SRL
BUCUREŞTI

OCTOMBRIE 2015

CUPRINS

Piese scrise

1. Memoriu tehnic
2. Fisa de masuratori prin tehnologie GPS
3. Inventar coordonate puncte determinate GPS
4. Calculul coordonatelor punctelor
5. Fisa de masuratori prin metode clasice
6. Inventar de coordonate

Piese desenate

7. Plan de incadrare in zona scara 1:100000
8. Descrierile topografice ale punctelor din reteaua de ridicare
9. Planurile de situatie scara 1:500

MEMORIU TEHNIC

1. **Adresa imobilului**: Localitatea Ungheni, judetul Iasi.
2. **Beneficiarii lucrării**: **CNADNR S.A.**
3. **Persoana fizică/juridică autorizată**: SC TOPCADEX 99 SRL, prin Folfă Ioan,
   - Autorizaţie: Seria RO-B-F, Nr. 0427
3. **Scopul lucrării**: Elaborare Studiu de Fezabilitate pentru "Pod peste Prut la Ungheni", judetul Iasi
4. **Amplasamentul imobilului**: Imobilul este amplasat in localitatea Ungheni, judetul Iasi.
5. **Operaţiuni topo-cadastrale efectuate**:

a. Metode şi aparatura folosite la măsurători

Deoarece în zona de interes nu există suficiente puncte din reţeaua geodezică de stat, sau determinat coordonate pentru 4 puncte folosind tehnologia G.P.S. Observatiile au fost efectuate cu ajutorul a patru aparate GPS LOCUS produse de firma ASHTECH SUA.

Măsurătorile au fost realizate pentru zona de interes, prin ridicarea detaliilor din cele doua puncte GPS si doua puncte noi determinate. Măsurătorile pentru întocmirea planului de situaţie s-au efectuat cu staţia totală LEICA TCR 1205.

Precizia de masurare a unghiurilor: 5^{CC}

Precizia de masurare a distantelor: +\-3mm+2ppm/km.

b. Sistemul de coordonate

Sistemul de proiecţie: Stereografic 1970.

Sistemul de referinţă: Marea Neagră 1975.

c. Puncte geodezice de sprijin vechi şi noi folosite

Pentru punctele determinate prin tehnologia G.P.S s-au folosit 3 statii permanente enumerate in tabelul de mai jos.

BACA	STATIA PERMANENTA BACAU
TGRT	STATIA PERMANENTA BOTOSANI
TGTS	STATIA PERMANENTA MOINESTI

d. Starea punctelor geodezice vechi

Punctele geodezice utilizate sunt în stare foarte bună. Acestea sunt materializate astfel:

BAIA	STATIA PERMANENTA BAIA MARE	PILASTRU
TGRT	STATIA PERMANENTA BOTOSANI	PILASTRU
TGTS	STATIA PERMANENTA MOINESTI	PILASTRU

e. Descrierea punctelor topografice noi determinate în cadrul lucrării (puncte de îndesire ale reţelei de sprijin sau ale reţelei de ridicare).

Punctele noi determinate sunt materializate conform descrierilor topografice anexate lucrării.

Data întocmirii: ..Octombrie, 2015….

Persoană fizică/persoană juridică autorizată

Ing. FOLFĂ IOAN / S.C. TOPCADEX-99 SRL

FISA DE MASURATORI PRIN TEHNOLOGIE GPS

COORDONATELE PUNCTELOR COMUNE (STEREO1970, elipsoid WGS84)						
Pct.	**XW**	**YW**	**ZW**	**BW**	**LW**	**HW**
BACA	564260.466	646698.704	185.63	46 33 43.40958	26 54 43.9554	219.193
TGRT	695072.008	625094.067	176.384	47 44 34.195091	26 39 59.434247	210.0386
TGTS	553873.767	614498.232	486.345	46 28 29.430063	26 29 23.016927	521.3284

PARAMETRI LOCALI DE TRANSFORMARE

St (emp) = +/- 0.041 DX = 34.213m, DY = 118.476m, m sin(α) = 0.00000208, m cos(α)= 0.99998219, m = 0.99998219, rotatia = 0.133 mgon

COORDONATELE PUNCTELOR NOI (STEREO 1970 - elipsoid WGS84) şi PRECIZII						
Pct.	**X (m)**	**Y (m)**	**Sxs**	**Sys**	**BW**	**LW**
UNG2	642592.082	708464.733	0.058	0.053	47° 14' 59,90149" N	27° 45' 10,37730" E
UNG1	642496.813	708587.557	0.058	0.053	47° 14' 56,67988" N	27° 45' 16,05563" E
GPS1	642517.297	709016.592	0.058	0.053	47° 14' 56.85650" N	27° 45' 36.47692" E
MLD2	642532.305	708939.320	0.058	0.053	47° 14' 57.42975" N	27° 45' 32.83002" E

REZULTATE ALE PRELUCRĂRII VECTORILOR MĂSURAŢI
(Coordonate relative şi indicatori de precizie pe componente)

Vector Stage: Adjusted **Date:** 2015
Horizontal Coordinate System: World Geodetic Sys. 1984 **Project file:** IS.spr
Height System: Ellips. Ht. **Linear Units of Measure:** Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**BACA-TGRT**	**7/12 0:00**	132588,795	0,070	X	-77521,966	-0,022	
					Y	-60014,868	0,049	
					Z	89265,609	0,045	
2	**BACA-TGWA**	**7/12 0:00**	132111,252	0,055	X	-56167,369	-0,011	
					Y	-86336,475	0,012	
					Z	82732,234	0,053	
3	**TGRT-TGWA**	**7/12 0:00**	34518,558	0,012	X	21354,597	0,010	
					Y	-26321,608	-0,006	
					Z	-6533,376	-0,001	
4	**BACA-TGTS**	**7/12 0:00**	33841,720	0,021	X	21038,792	0,008	
					Y	-25709,832	0,013	
					Z	-6452,577	-0,015	
5	**TGRT-TGTS**	**7/12 0:00**	141608,721	0,096	X	98560,758	0,001	
					Y	34305,036	-0,018	
					Z	-95718,187	-0,094	
6	**TGTS-TGWA**	**7/12 0:00**	132628,473	0,090	X	-77206,161	-0,010	
					Y	-60626,643	0,027	
					Z	89184,811	0,085	
7	**UNG1-UNG2**	**7/13 11:56**	155,424	0,000	X	-8,677	0,000	
					Y	-139,494	0,000	
					Z	67,990	0,000	
8	**BACA-UNG2**	**7/13 11:56**	99753,797	0,130	X	-79107,760	-0,069	
					Y	31211,828	-0,047	
					Z	52140,234	-0,099	
9	**BACA-UNG1**	**7/13 11:53**	99755,145	0,118	X	-79099,082	-0,064	
					Y	31351,322	-0,046	
					Z	52072,244	-0,087	
10	**BACA-TGRT**	**7/13 0:00**	132588,795	0,027	X	-77521,966	-0,023	
					Y	-60014,868	0,006	
					Z	89265,609	0,012	

11	**TGRT-UNG2**	**7/13 11:56**	98504,407	0,160	X	-1585,794	0,050
					Y	91226,696	0,001
					Z	-37125,375	0,152
12	**TGRT-UNG1**	**7/13 11:53**	98659,082	0,113	X	-1577,116	0,039
					Y	91366,190	-0,002
					Z	-37193,365	0,106
13	**BACA-TGTS**	**7/13 0:00**	33841,720	0,027	X	21038,792	-0,004
					Y	-25709,832	0,025
					Z	-6452,577	-0,010
14	**TGRT-TGTS**	**7/13 0:00**	141608,721	0,047	X	98560,758	0,040
					Y	34305,036	0,025
					Z	-95718,187	-0,008
15	**TGTS-UNG2**	**7/13 11:56**	129238,249	0,203	X	-100146,552	-0,089
					Y	56921,660	-0,030
					Z	58592,812	-0,180
16	**TGTS-UNG1**	**7/13 11:53**	129262,230	0,238	X	-100137,875	-0,129
					Y	57061,154	-0,089
					Z	58524,822	-0,179
17	**BACA-TGWA**	**7/13 0:00**	132111,252	0,030	X	-56167,369	-0,014
					Y	-86336,475	0,027
					Z	82732,234	0,002
18	**TGRT-TGWA**	**7/13 0:00**	34518,558	0,006	X	21354,597	-0,006
					Y	-26321,608	0,003
					Z	-6533,376	-0,000
19	**TGTS-TGWA**	**7/13 0:00**	132628,473	0,034	X	-77206,161	-0,019
					Y	-60626,643	0,016
					Z	89184,811	0,024
20	**TGWA-UNG2**	**7/13 11:56**	123611,228	0,285	X	-22940,391	0,172
					Y	117548,304	-0,028
					Z	-30591,999	0,225
21	**TGWA-UNG1**	**7/13 11:53**	123759,105	0,341	X	-22931,713	0,254
					Y	117687,798	0,156
					Z	-30659,989	0,166

Data,
AUG 2015

Intocmit,

S.C. TOPCADEX-99 SRL



INVENTAR COORDONATE

PUNCTE DETERMINATE GPS

Sistem de proiectie: "STEREOGRAFIC 1970"

NUME	X[m]	Y[m]	H[m]
UNG1	642496.813	708587.557	38.457
UNG2	642592.082	708464.733	39.074



INVENTAR DE COORDONATE - fişier ASCII

Judeţul: Iasi
Denumirea unităţii administrativ-teritoriale: Ungheni
Cod SIRSUP: 96003

COD			Y	X	H	Er.m.p.
71P8			642620.087	708114.805	39.350	
71P9			642393.911	708054.360	39.129	
71BR9			642107.223	707477.777	41.867	
71DIG1			641711.823	707538.501	41.861	
71DIG2			641477.960	707771.747	41.737	
71DIG3			641287.657	708110.783	41.370	
71DIG4			641141.102	708323.114	41.501	
71DIG5			641207.701	708383.503	38.760	
71P7	2	1.50	642583.610	708318.609	38.498	
90	14	1.50	642393.911	708054.360	39.129	
81	17	0.00	642104.519	707466.521	37.336	
81	18	0.00	642110.848	707464.691	37.696	
83	19	0.00	642111.000	707477.735	41.521	
83	20	0.00	642112.102	707481.706	41.648	
413	21	0.00	642110.908	707449.287	37.677	
413	22	0.00	642115.102	707459.515	38.874	
413	23	0.00	642120.197	707475.944	41.538	
71P10	24	1.50	642432.439	707454.313	41.717	
772	26	1.50	642432.367	707453.348	41.738	
413	27	0.00	642122.030	707481.101	41.639	
413	28	0.00	642125.871	707493.072	39.327	
413	29	0.00	642125.862	707495.877	38.955	
413	30	0.00	642126.491	707504.304	38.575	
413	31	0.00	642129.950	707503.551	38.610	
73	32	1.50	642115.880	707515.430	37.839	
81	33	1.50	642113.324	707491.547	37.882	
775	36	1.50	641711.849	707538.306	42.189	
72GSM	38	1.50	641639.735	707469.175	41.861	
83	41	1.50	641774.114	707501.067	41.565	
83	42	1.50	641774.736	707505.569	41.574	
83	43	1.50	641753.559	707511.583	41.458	
83	44	1.50	641751.658	707507.445	41.432	
83	45	1.50	641730.068	707526.916	41.752	
83	46	1.50	641726.924	707523.694	41.691	
31	49	1.50	641734.306	707536.263	38.266	
81	50	1.50	641721.397	707548.600	38.147	
83	51	0.00	641714.057	707540.872	41.910	
81	52	2.60	641686.314	707580.441	38.721	
74	53	0.00	641734.346	707536.446	48.649	
74	54	0.00	641669.504	707562.965	49.612	
83	55	1.50	641679.977	707576.338	41.913	
83	56	1.50	641677.610	707572.878	41.840	
81	57	1.50	641673.110	707566.394	39.037	
31	58	1.50	641669.575	707562.771	39.108	
74	59	0.00	641591.706	707594.906	49.431	
81	60	0.00	641704.630	707530.408	38.556	
73	61	1.50	641605.429	707604.568	38.348	
73	62	1.50	641594.294	707597.296	38.532	
81	63	1.50	641619.716	707621.728	38.559	
83	64	1.50	641626.140	707628.342	41.884	
83	65	1.50	641629.028	707631.719	41.926	
81	66	1.50	641633.804	707638.040	39.246	
71A1	67	1.50	641701.851	707861.340	37.980	
73	69	1.50	641647.483	707654.361	38.121	
73	70	1.50	641703.673	707851.225	37.864	
73	71	1.50	641677.605	707861.766	37.953	
73	72	1.50	641694.929	707598.008	38.350	
73	73	1.50	641655.970	707810.635	37.937	
73	74	1.50	641698.720	707627.654	37.927	
73	75	1.50	641702.664	707659.756	37.910	

73	76	1.50	641687.155	707797.291	37.199
73	77	1.50	641698.713	707705.544	38.201
73	78	1.50	641685.679	707753.488	37.463
423	79	1.50	641630.898	707769.977	38.292
423	80	1.50	641627.068	707733.091	37.780
423	81	1.50	641623.646	707698.218	37.695
73	82	1.50	641642.405	707694.938	38.040
73	83	1.50	641640.566	707675.656	37.241
423	84	1.50	641621.789	707681.925	37.345
423	85	1.50	641620.798	707660.000	38.852
83	86	1.50	641614.187	707641.519	41.918
83	87	1.50	641643.441	707609.184	41.746
774	88	1.50	641643.708	707609.084	42.162
81	89	1.50	641611.075	707631.540	38.465
81	90	1.50	641640.556	707600.633	38.921
73	91	1.50	641636.024	707571.654	38.264
73	92	1.50	641601.623	707589.333	38.400
95	93	1.50	641596.690	707570.782	38.846
95	94	1.50	641630.817	707540.018	38.067
95	95	1.50	641587.890	707534.825	39.339
95	96	1.50	641625.063	707503.319	38.352
95	97	1.50	641579.425	707513.129	38.890
95	98	1.50	641618.293	707479.204	39.087
73	99	1.50	641569.003	707484.816	38.654
73	100	1.50	641610.673	707424.559	38.866
73	101	1.50	641561.448	707457.971	38.373
73	102	1.50	641552.211	707428.419	38.461
73	103	1.50	641604.478	707382.298	38.606
73	104	1.50	641541.081	707393.974	38.214
73	105	1.50	641597.615	707345.704	38.673
95	106	1.50	641588.833	707302.141	38.424
95	107	2.60	641529.217	707352.488	38.093
95	108	1.50	641501.446	707294.554	37.654
95	109	1.50	641579.142	707230.019	38.372
95	110	1.50	641467.478	707231.549	37.395
73	111	1.50	641552.683	707158.364	38.747
95	112	1.50	641453.142	707197.263	37.543
95	113	1.50	641539.985	707126.714	38.885
53	114	1.50	641449.916	707181.001	37.990
73	115	2.60	641448.226	707178.397	36.738
53	116	2.60	641446.348	707175.900	38.068
53	117	1.50	641528.678	707115.320	38.585
53	118	2.60	641526.589	707112.970	38.537
53	119	2.60	641512.580	707122.310	39.131
73	120	2.60	641513.695	707124.634	37.839
90	121	1.50	641711.823	707538.501	41.861
72GSM	141	1.50	641471.253	707764.329	41.737
83	144	1.50	641596.072	707944.508	38.467
42	145	1.50	641587.889	707932.865	38.143
42	146	1.50	641573.192	707940.578	37.757
42	147	1.50	641558.650	707917.458	38.035
44	148	1.50	641560.387	707916.554	37.914
42	149	1.50	641542.013	707890.689	37.612
44	150	1.50	641543.495	707889.787	37.665
44	151	1.50	641516.230	707843.013	37.759
42	152	1.50	641514.710	707843.743	37.831
44	153	1.50	641499.162	707812.323	37.804
81	154	1.50	641482.757	707780.710	38.338
83	155	1.50	641476.626	707774.858	41.768
83	156	1.50	641474.046	707771.743	41.664
81	157	1.50	641466.889	707765.524	38.863
73	158	1.50	641450.439	707747.832	38.800
90	161	1.50	641477.960	707771.747	41.737
75CSA	166	0.70	641354.642	707985.076	41.824
73	167	0.00	641245.487	708076.043	38.332
73	168	0.00	641265.284	708092.352	37.758
83	169	1.50	641285.772	708109.702	41.217
83	170	1.50	641289.405	708112.303	41.218
81	171	1.50	641296.590	708117.540	37.810

GSM	172	1.50	641135.376	708314.915	41.501
83	177	1.50	641208.267	708383.660	38.788
73	178	1.50	641199.655	708380.087	38.427
73	179	1.50	641176.773	708376.950	38.078
44	180	1.50	641154.089	708373.881	38.435
81	181	1.50	641147.475	708373.693	38.605
83	182	1.50	641139.506	708372.294	41.446
83	183	1.50	641135.330	708372.103	41.396
81	184	1.50	641127.904	708373.679	38.541
90	185	1.50	641141.102	708323.114	41.501
52	188	0.00	641346.608	708273.846	32.052
52	189	0.00	641319.022	708309.587	32.029
52	190	0.00	641288.424	708366.938	32.027
52	191	0.00	641271.566	708405.946	32.084
52	192	0.00	641261.656	708445.852	32.045
52	193	0.00	641248.825	708498.581	32.232
52	194	0.00	641249.184	708574.546	32.056
52	195	0.00	641271.979	708404.512	32.035
73	196	0.00	641276.008	708405.829	33.730
73	197	0.00	641285.180	708391.758	36.087
73	198	0.00	641282.745	708408.907	37.845

!!!



S.C. TOPCADEX-99 SRL Bucureşti
Tipul aparatului: LEICA TCR1205
Pecizia: - 5^{CC}
- 3mm+2ppm/km

Fişă de măsurători prin metode clasice

```
Jb: UNGHENI  J  TCR1205 227247
642620.087
708114.805
39.35
111.2749
LSNNN
Pt:71P7     2     1.50E  207.014 Hz  264.8780 h -0.844     V= 100.2736  D=  207.0156
Pt:71P7     3     1.50E  207.013 Hz   64.8787 h -0.860     V= 299.7215  D=  207.0153
Pt:71P9     4     1.50E  234.079 Hz  370.2278 h -0.220     V= 100.0725  D=  234.0788
Pt:P8       5     1.50E  234.078 Hz  170.2287 h -0.235     V= 299.9235  D=  234.0782
1.50 1.542 1.50
1.50
Pt:71P7     2     1.50E  207.014 Hz  264.8783 h -0.852     V= 100.2736  D=  207.0156
***
Pt:71P8     8     1.50E  234.082 Hz   74.5347 h  0.225     V=  99.9689  D=  234.0824
Pt:71P8     9     1.50E  234.082 Hz  274.5364 h  0.204     V= 300.0254  D=  234.0823
Pt:75BR9    12    1.50E  643.829 Hz  328.5353 h  2.742     V=  99.7425  D=  643.8345
Pt:P9       13    1.50E  643.831 Hz  128.5362 h  2.723     V= 300.2556  D=  643.8369
1.50 1.606 1.50
1.50
Pt:90       14    1.50E   -0.000 Hz  200.3986 h -0.000     V=  88.8161  D=   -0.000
***
Pt:71P9     15    1.50E  643.838 Hz  225.9349 h -2.735     V= 100.2369  D=  643.8420
Pt:71P9     16    1.50E  643.833 Hz   25.9334 h -2.751     V= 299.7616  D=  643.8368
Pt:71DIG1   34    1.50E  399.980 Hz  345.6086 h  0.001     V=  99.9427  D=  399.9800
Pt:BR9      35    1.50E  399.977 Hz  145.6075 h -0.023     V= 300.0536  D=  399.9773
1.50 1.128 1.50
1.50
Pt:81       17    0.00E   11.574 Hz   40.2972 h -4.531     V= 128.9511  D=   12.8829
Pt:81       18    0.00E   13.577 Hz   72.5112 h -4.171     V= 123.6909  D=   14.5742
Pt:83       19    0.00E    3.776 Hz  154.6010 h -0.346     V= 123.6971  D=    4.0540
Pt:83       20    0.00E    6.263 Hz  198.4658 h -0.219     V= 113.4883  D=    6.4067
Pt:413      21    0.00E   28.723 Hz   63.4976 h -4.190     V= 111.6559  D=   29.2112
Pt:413      22    0.00E   19.886 Hz   81.2407 h -2.993     V= 113.0078  D=   20.3086
Pt:413      23    0.00E   13.101 Hz  146.3715 h -0.329     V= 107.0513  D=   13.1822
Pt:71P10    24    1.50E  326.015 Hz  150.7238 h -0.150     V=  99.9541  D=  326.0153
Pt:772      26    1.50E  326.014 Hz  150.5349 h -0.129     V=  99.9542  D=  326.0139
Pt:413      27    0.00E   15.173 Hz  169.3669 h -0.228     V= 105.6740  D=   15.2332
Pt:413      28    0.00E   24.115 Hz  199.0399 h -2.540     V= 109.6107  D=   24.3923
Pt:413      29    0.00E   25.977 Hz  204.3765 h -2.912     V= 109.8227  D=   26.2891
Pt:413      30    0.00E   32.781 Hz  215.3173 h -3.292     V= 108.5328  D=   33.0775
Pt:413      31    0.00E   34.358 Hz  209.3040 h -3.257     V= 108.0812  D=   34.6371
Pt:73       32    1.50E   38.630 Hz  240.9232 h -4.028     V= 106.0077  D=   38.8027
Pt:81       33    1.50E   15.059 Hz  228.7569 h -3.985     V= 114.9909  D=   15.4866
Pt:775      36    1.50E  399.925 Hz  345.6380 h  0.322     V=  99.8915  D=  399.9256
***
Pt:75BR9    39    1.50E  399.980 Hz  141.5408 h -0.000     V= 100.2890  D=   -0.000
Pt:75BR9    40    1.50E  399.980 Hz  341.5433 h -0.000     V= 300.0062  D=   -0.000
Pt:71DIG2   47    1.50E  330.250 Hz  301.3284 h -0.133     V= 100.0369  D=  330.2504
Pt:DIG1     48    1.50E  330.251 Hz  101.3261 h -0.171     V= 299.9557  D=  330.2510
1.50 1.550 1.50
1.50
Pt:72GSM    38    1.50E  100.000 Hz  399.9998 h -0.000     V=  97.3282  D=   -0.000
Pt:83       41    1.50E   72.663 Hz  116.7944 h -0.296     V= 100.3036  D=   72.6637
Pt:83       42    1.50E   71.000 Hz  120.5435 h -0.287     V= 100.3024  D=   71.0006
Pt:83       43    1.50E   49.656 Hz  114.7764 h -0.403     V= 100.5812  D=   49.6585
Pt:83       44    1.50E   50.503 Hz  109.0869 h -0.429     V= 100.6035  D=   50.5056
Pt:83       45    1.50E   21.609 Hz  115.2291 h -0.109     V= 100.4685  D=   21.6096
Pt:83       46    1.50E   21.146 Hz  101.8686 h -0.170     V= 100.6619  D=   21.1469
Pt:31       49    1.50E   22.591 Hz  144.9286 h -3.595     V= 110.1837  D=   22.8835
```

Pt:81	50	1.50E	13.914	Hz	202.9430	h	-3.714	V= 116.8179	D=	14.4137
Pt:83	51	0.00E	3.258	Hz	203.1475	h	0.049	V= 127.4863	D=	3.5869
Pt:81	52	2.60E	49.082	Hz	286.0305	h	-3.140	V= 102.7094	D=	49.1260
Pt:74	53	0.00E	22.613	Hz	145.4525	h	6.788	V= 85.5088	D=	23.2121
Pt:74	54	0.00E	48.875	Hz	317.8742	h	7.751	V= 91.9654	D=	49.2664
Pt:83	55	1.50E	49.449	Hz	295.7831	h	0.052	V= 99.9977	D=	49.4487
Pt:83	56	1.50E	48.494	Hz	301.0915	h	-0.021	V= 100.0934	D=	48.4945
Pt:81	57	1.50E	47.709	Hz	311.4951	h	-2.824	V= 103.8303	D=	47.7956
Pt:31	58	1.50E	48.716	Hz	318.0479	h	-2.753	V= 103.6596	D=	48.7969
Pt:74	59	0.00E	132.683	Hz	323.2941	h	7.570	V= 97.1140	D=	132.8195
Pt:81	60	0.00E	10.825	Hz	4.9838	h	-3.305	V= 126.8389	D=	11.8634
Pt:73	61	1.50E	125.220	Hz	315.8665	h	-3.513	V= 101.8117	D=	125.2704
Pt:73	62	1.50E	131.397	Hz	321.7132	h	-3.329	V= 101.6374	D=	131.4400
Pt:81	63	1.50E	124.121	Hz	304.4645	h	-3.302	V= 101.7195	D=	124.1666
Pt:83	64	1.50E	124.131	Hz	299.7355	h	0.023	V= 100.0144	D=	124.1311
Pt:83	65	1.50E	124.661	Hz	297.4778	h	0.065	V= 99.9930	D=	124.6606
Pt:81	66	1.50E	126.454	Hz	293.5647	h	-2.615	V= 101.3419	D=	126.4822
Pt:71A1	67	1.50E	322.947	Hz	253.2090	h	-3.881	V= 100.7741	D=	322.9715
Pt:73	69	1.50E	132.508	Hz	283.5151	h	-3.740	V= 101.8213	D=	132.5619
Pt:73	70	1.50E	312.787	Hz	252.9021	h	-3.997	V= 100.8253	D=	312.8126
Pt:73	71	1.50E	325.025	Hz	257.9570	h	-3.908	V= 100.7768	D=	325.0491
Pt:73	72	1.50E	61.850	Hz	268.8538	h	-3.511	V= 103.6614	D=	61.9519
Pt:73	73	1.50E	277.768	Hz	264.1303	h	-3.924	V= 100.9121	D=	277.7961
Pt:73	74	1.50E	90.098	Hz	260.5333	h	-3.934	V= 102.8138	D=	90.1863
Pt:73	75	1.50E	121.584	Hz	256.0432	h	-3.951	V= 102.0950	D=	121.6498
Pt:73	76	1.50E	259.926	Hz	257.2932	h	-4.662	V= 101.1552	D=	259.9689
Pt:73	77	1.50E	167.533	Hz	256.2293	h	-3.660	V= 101.4105	D=	167.5738
Pt:73	78	1.50E	216.540	Hz	258.9473	h	-4.398	V= 101.3087	D=	216.5853
Pt:423	79	1.50E	245.180	Hz	272.6543	h	-3.569	V= 100.9409	D=	245.2069
Pt:423	80	1.50E	212.217	Hz	277.3942	h	-4.081	V= 101.2403	D=	212.2571
Pt:423	81	1.50E	182.416	Hz	283.3570	h	-4.166	V= 101.4720	D=	182.4646
Pt:73	82	1.50E	171.124	Hz	277.8310	h	-3.821	V= 101.4408	D=	171.1681
Pt:73	83	1.50E	154.539	Hz	281.7471	h	-4.620	V= 101.9238	D=	154.6097
Pt:423	84	1.50E	169.318	Hz	286.9306	h	-4.516	V= 101.7172	D=	169.3794
Pt:423	85	1.50E	151.794	Hz	292.1765	h	-3.009	V= 101.2836	D=	151.8252
Pt:83	86	1.50E	141.915	Hz	299.5360	h	0.057	V= 99.9976	D=	141.9146
Pt:83	87	1.50E	98.334	Hz	300.1900	h	-0.115	V= 100.1072	D=	98.3339
Pt:774	88	1.50E	98.076	Hz	300.1104	h	0.301	V= 99.8379	D=	98.0762
Pt:81	89	1.50E	137.118	Hz	303.7747	h	-3.396	V= 101.6002	D=	137.1615
Pt:81	90	1.50E	94.536	Hz	305.5957	h	-2.940	V= 102.0136	D=	94.5836
Pt:73	91	1.50E	82.721	Hz	324.9947	h	-3.597	V= 102.8057	D=	82.8016
Pt:73	92	1.50E	121.342	Hz	323.7293	h	-3.461	V= 101.8422	D=	121.3926
Pt:95	93	1.50E	119.556	Hz	333.8404	h	-3.015	V= 101.6324	D=	119.5956
Pt:95	94	1.50E	81.010	Hz	350.0509	h	-3.794	V= 103.0188	D=	81.1014
Pt:95	95	1.50E	123.970	Hz	353.1307	h	-2.522	V= 101.3212	D=	123.9962
Pt:95	96	1.50E	93.609	Hz	375.7687	h	-3.509	V= 102.4196	D=	93.6765
Pt:95	97	1.50E	134.788	Hz	363.2967	h	-2.971	V= 101.4272	D=	134.8219
Pt:95	98	1.50E	110.727	Hz	387.2142	h	-2.774	V= 101.6236	D=	110.7627
Pt:73	99	1.50E	152.555	Hz	374.1330	h	-3.207	V= 101.3599	D=	152.5894
Pt:73	100	1.50E	152.340	Hz	5.0246	h	-2.995	V= 101.2729	D=	152.3704
Pt:73	101	1.50E	170.557	Hz	382.5434	h	-3.488	V= 101.3214	D=	170.5934
Pt:73	102	1.50E	193.865	Hz	389.6800	h	-3.400	V= 101.1336	D=	193.8955
Pt:73	103	1.50E	189.505	Hz	12.9127	h	-3.255	V= 101.1111	D=	189.5341
Pt:73	104	1.50E	223.666	Hz	395.9616	h	-3.647	V= 101.0533	D=	223.6962
Pt:73	105	1.50E	224.053	Hz	17.1972	h	-3.188	V= 100.9212	D=	224.0762
Pt:95	106	1.50E	266.406	Hz	20.6984	h	-3.437	V= 100.8345	D=	266.4288
Pt:95	107	2.60E	260.627	Hz	1.8314	h	-3.768	V= 100.6653	D=	260.6409
Pt:95	108	1.50E	322.086	Hz	5.9385	h	-4.207	V= 100.8429	D=	322.1141
Pt:95	109	1.50E	335.758	Hz	25.3842	h	-3.489	V= 100.6727	D=	335.7762
Pt:95	110	1.50E	392.276	Hz	8.4419	h	-4.466	V= 100.7348	D=	392.3020
Pt:73	111	1.50E	412.046	Hz	26.0031	h	-3.114	V= 100.4908	D=	412.0580
Pt:95	112	1.50E	428.144	Hz	9.9492	h	-4.318	V= 100.6516	D=	428.1662
Pt:95	113	1.50E	446.139	Hz	26.0757	h	-2.976	V= 100.4340	D=	446.1496
Pt:53	114	1.50E	443.109	Hz	10.9912	h	-3.871	V= 100.5656	D=	443.1260
Pt:73	115	2.60E	446.208	Hz	11.0162	h	-5.123	V= 100.5833	D=	446.2267
Pt:53	116	2.60E	449.332	Hz	11.0105	h	-3.793	V= 100.3909	D=	449.3402
Pt:53	117	1.50E	461.047	Hz	25.2408	h	-3.276	V= 100.4615	D=	461.0588
Pt:53	118	2.60E	464.033	Hz	25.1058	h	-3.324	V= 100.3143	D=	464.0386
Pt:53	119	2.60E	461.359	Hz	22.8189	h	-2.730	V= 100.2342	D=	461.3623

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Pt:73       120   2.60E  458.782 Hz   22.8192 h -4.022     V= 100.4147  D=  458.7912
Pt:90       121   1.50E   -0.000 Hz  392.5070 h -0.000     V= 100.4130  D=   -0.000
***
Pt:71DIG1   142   1.50E  330.247 Hz   96.8794 h  0.097     V=  99.9899  D=  330.2469
Pt:71DIG1   143   1.50E  330.252 Hz  296.8787 h  0.095     V= 300.0098  D=  330.2519
Pt:71DIG3   159   1.50E  388.742 Hz  279.3578 h -0.392     V= 100.0721  D=  388.7422
Pt:DIG2     160   1.50E  388.734 Hz   79.3557 h -0.410     V= 299.9251  D=  388.7346
1.50 1.536 1.50
1.50
Pt:72GSM    141   1.50E   10.000 Hz  399.9997 h -0.000     V=  97.3110  D=   -0.000
Pt:83       144   1.50E  209.247 Hz  208.6178 h -3.270     V= 101.0068  D=  209.2728
Pt:42       145   1.50E  195.019 Hz  208.6779 h -3.594     V= 101.1859  D=  195.0528
Pt:42       146   1.50E  193.811 Hz  214.0993 h -3.980     V= 101.3199  D=  193.8527
Pt:42       147   1.50E  166.537 Hz  214.5990 h -3.702     V= 101.4294  D=  166.5786
Pt:44       148   1.50E  166.599 Hz  213.8511 h -3.823     V= 101.4751  D=  166.6436
Pt:42       149   1.50E  135.073 Hz  215.3466 h -4.125     V= 101.9613  D=  135.1369
Pt:44       150   1.50E  134.993 Hz  214.5295 h -4.072     V= 101.9376  D=  135.0558
Pt:44       151   1.50E   80.880 Hz  215.4215 h -3.978     V= 103.1571  D=   80.9800
Pt:42       152   1.50E   80.822 Hz  216.7480 h -3.906     V= 103.1029  D=   80.9177
Pt:44       153   1.50E   45.775 Hz  216.1407 h -3.933     V= 105.5061  D=   45.9468
Pt:81       154   1.50E   10.165 Hz  215.5119 h -3.399     V= 120.7475  D=   10.7298
Pt:83       155   1.50E    3.385 Hz  272.5889 h  0.031     V= 100.1017  D=    3.3855
Pt:83       156   1.50E    3.913 Hz  346.8592 h -0.073     V= 101.7766  D=    3.9143
Pt:81       157   1.50E   12.698 Hz  379.3966 h -2.874     V= 114.3407  D=   13.0268
Pt:73       158   1.50E   36.455 Hz  392.3399 h -2.937     V= 105.1803  D=   36.5757
Pt:90       161   1.50E   -0.000 Hz  346.5867 h -0.000     V= 139.9823  D=   -0.000
***
Pt:71DIG2   162   1.50E  388.740 Hz   74.5304 h  0.347     V=  99.9465  D=  388.7401
Pt:71DIG2   163   1.50E  388.737 Hz  274.5313 h  0.321     V= 300.0493  D=  388.7369
Pt:71DIG4   164   1.50E  257.963 Hz  280.4298 h  0.129     V=  99.9714  D=  257.9629
Pt:DIG3     165   1.50E  257.956 Hz   80.4287 h  0.126     V= 300.0278  D=  257.9558
1.50 1.508 1.50
1.50
Pt:75CSA    166   0.70E  142.420 Hz   73.1376 h  0.454     V= 100.1588  D=  142.4208
Pt:73       167   0.00E   54.629 Hz  385.8378 h -3.038     V= 105.2861  D=   54.8181
Pt:73       168   0.00E   28.984 Hz  385.8375 h -3.612     V= 111.1311  D=   29.4331
Pt:83       169   1.50E    2.173 Hz  375.1205 h -0.153     V= 104.7129  D=    2.1793
Pt:83       170   1.50E    2.316 Hz  187.5453 h -0.152     V= 104.4019  D=    2.3215
Pt:81       171   1.50E   11.198 Hz  183.1956 h -3.560     V= 119.6373  D=   11.7532
***
Pt:71DIG3   173   1.50E  257.965 Hz   77.2680 h -0.130     V= 100.0496  D=  257.9652
Pt:71DIG3   174   1.50E  257.962 Hz  277.2693 h -0.141     V= 299.9476  D=  257.9617
Pt:71DIG5   175   1.50E   89.887 Hz  185.6972 h -2.735     V= 101.9835  D=   89.9303
Pt:DIG4     176   1.50E   89.885 Hz  385.6977 h -2.743     V= 298.0110  D=   89.9292
1.50 1.566 1.50
1.50
Pt:GSM      172   1.50E   10.000 Hz  399.9991 h -0.000     V=  97.5257  D=   -0.000
Pt:83       177   1.50E   90.413 Hz  185.5118 h -2.713     V= 101.9566  D=   90.4554
Pt:73       178   1.50E   81.685 Hz  187.9377 h -3.074     V= 102.4463  D=   81.7453
Pt:73       179   1.50E   64.572 Hz  201.5549 h -3.423     V= 103.4367  D=   64.6658
Pt:44       180   1.50E   52.395 Hz  222.8648 h -3.066     V= 103.8008  D=   52.4889
Pt:81       181   1.50E   50.972 Hz  230.8287 h -2.896     V= 103.6953  D=   51.0583
Pt:83       182   1.50E   49.199 Hz  240.8738 h -0.055     V= 100.1570  D=   49.1993
Pt:83       183   1.50E   49.321 Hz  246.2746 h -0.105     V= 100.2209  D=   49.3209
Pt:81       184   1.50E   52.252 Hz  255.0623 h -2.960     V= 103.6830  D=   52.3392
Pt:90       185   1.50E   -0.000 Hz  184.3930 h -0.000     V= 103.6850  D=   -0.000
***
Pt:71DIG4   186   1.50E   89.892 Hz  385.9513 h  2.749     V=  98.0948  D=   89.9323
Pt:71DIG4   187   1.50E   89.888 Hz  185.9510 h  2.738     V= 301.8976  D=   89.9275
Pt:71DIG4   186   1.50E   89.892 Hz  385.9513 h  2.749     V=  98.0948  D=   89.9323
Pt:DIG5     187   1.50E   89.888 Hz  185.9510 h  2.738     V= 301.8976  D=   89.9275
1.50 1.557 1.50
1.50
Pt:52       188   0.00E  176.949 Hz   96.5192 h -6.708     V= 102.9722  D=  177.1413
Pt:52       189   0.00E  133.607 Hz  101.7471 h -6.731     V= 103.9446  D=  133.8642
Pt:52       190   0.00E   82.393 Hz  126.1774 h -6.733     V= 106.3840  D=   82.8086
Pt:52       191   0.00E   67.684 Hz  160.5758 h -6.676     V= 107.7067  D=   68.1828
Pt:52       192   0.00E   82.442 Hz  193.6487 h -6.715     V= 106.3672  D=   82.8556
Pt:52       193   0.00E  122.189 Hz  217.2122 h -6.528     V= 104.2071  D=  122.4559
```

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Pt:52      194   0.00E  195.467 Hz  225.4497 h -6.704     V= 102.6899  D=  195.6417
Pt:52      195   0.00E   67.615 Hz  159.1734 h -6.725     V= 107.7596  D=   68.1206
Pt:73      196   0.00E   71.853 Hz  159.1734 h -5.030     V= 105.8199  D=   72.1543
Pt:73      197   0.00E   77.907 Hz  145.8196 h -2.673     V= 103.4539  D=   78.0216
Pt:73      198   0.00E   79.217 Hz  159.8426 h -0.915     V= 101.9865  D=   79.2559
***
!!!
```



Anexa

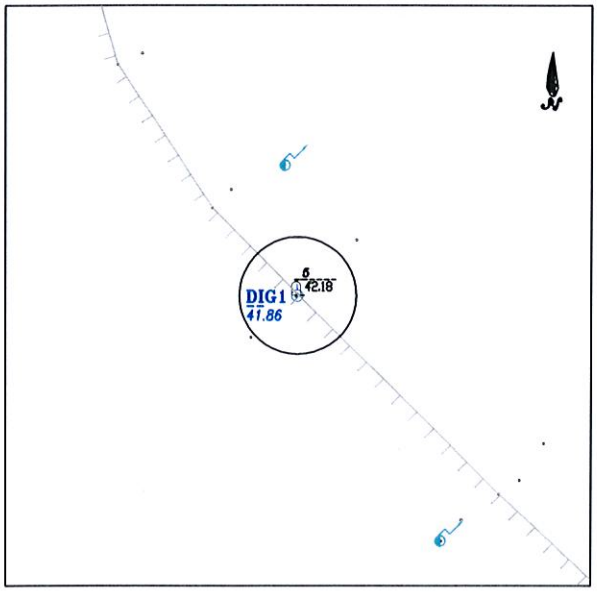
FISA DE DESCRIERE
A PUNCTELOR RETELEI

DENUMIRE PUNCT :	FOAIE DE PLAN :
DIG1	--

X =	641711.823	m
Y =	707538.501	m
H =	41.86	m

•Sistem de proiectie: STEREOGRAFIC 1970

•Plan de referinta: MAREA NEAGRA 1975

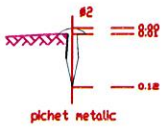


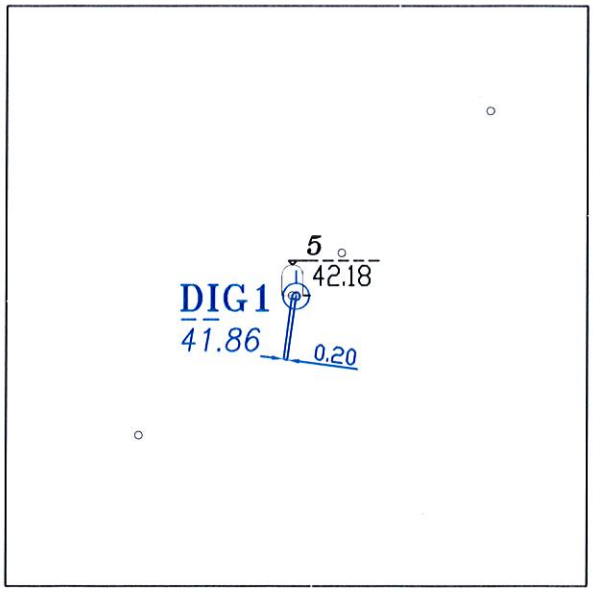
•MATERIALIZARE:

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•ACCES SI REPERAJ:

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•Localitatea: Loc. Ungheni, Judetul Iasi

Intocmit: ing. Catalin FOLFA Data: OCTOMBRIE, 2015 Verificat: ing. Ioan FOLFA



Anexa

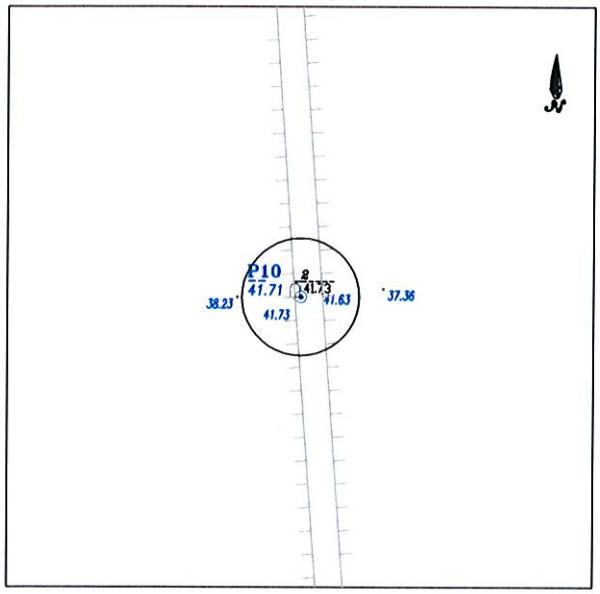
FISA DE DESCRIERE
A PUNCTELOR RETELEI

DENUMIRE PUNCT :	FOAIE DE PLAN :
P10	--

X =	642432.439	m
Y =	707454.313	m
H =	41.71	m

•Sistem de proiectie: STEREOGRAFIC 1970

•Plan de referinta: MAREA NEAGRA 1975

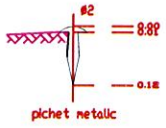


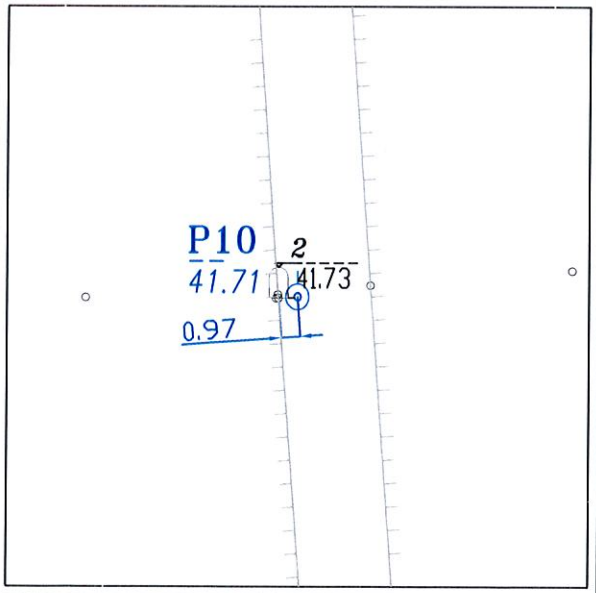
•MATERIALIZARE:

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•ACCES SI REPERAJ:

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•Localitatea: Loc. Ungheni, Judetul Iasi

Intocmit: ing. Catalin FOLFA Data: OCTOMBRIE, 2015 Verificat: ing. Ioan FOLFA



Anexa

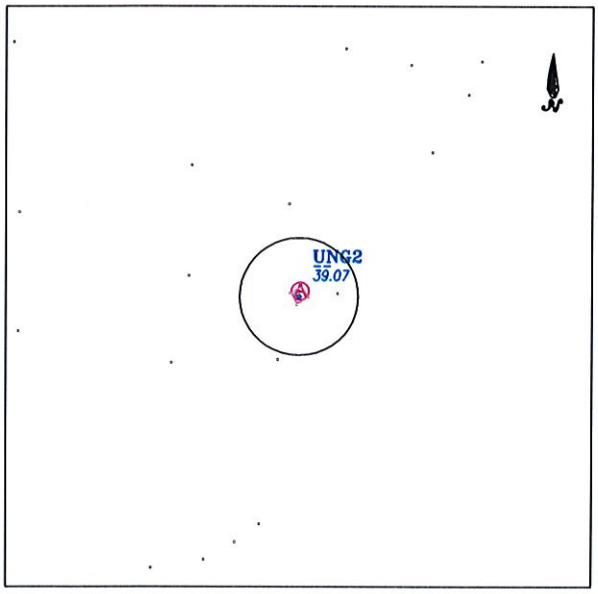
FISA DE DESCRIERE
A PUNCTELOR RETELEI

DENUMIRE PUNCT :	FOAIE DE PLAN :
UNG2	--

X =	642592.082	m
Y =	708464.733	m
H =	39.07	m

•Sistem de proiectie: STEREOGRAFIC 1970

•Plan de referinta: MAREA NEAGRA 1975

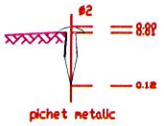


•MATERIALIZARE:

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•ACCES SI REPERAJ:

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•Localitatea: Loc. Ungheni, Judetul Iasi

Intocmit: ing. Catalin FOLFA Data: OCTOMBRIE, 2015 Verificat: ing. Ioan FOLFA

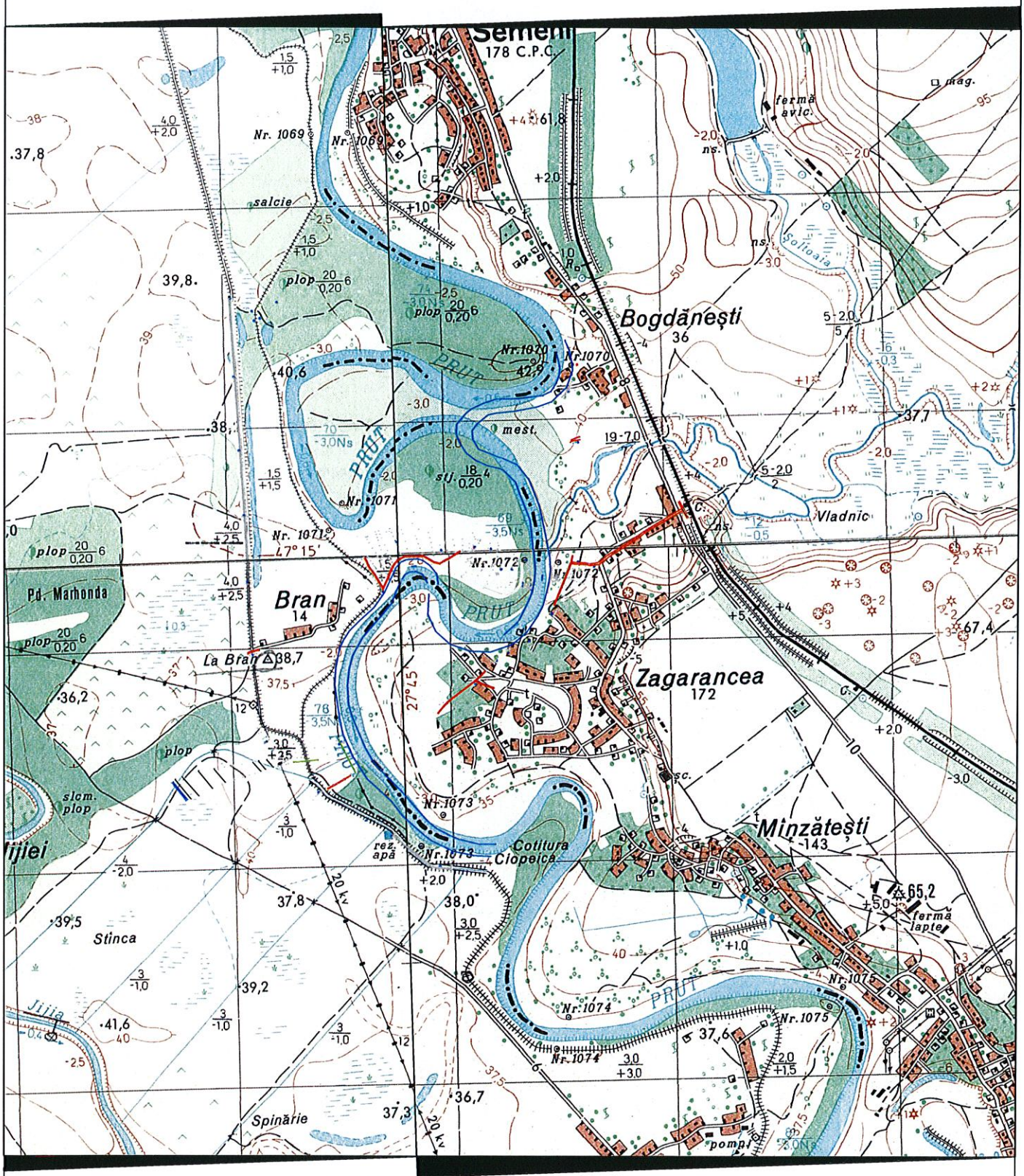


PLAN DE INCADRARE IN ZONA

Elaborare Studiu de Fezabilitate pentru "Pod peste Prut la Ungheni"

Localitatea Ungheni, Judetul Iasi

SCARA 1:25000



Numele si prenumele executantului: ***Ing. Ioan FOLFA***

Semnatura si stampila:

Persoana autorizata de ANCPI să execute lucrări de cadastru, geodezie și cartografie • CERTIFICAT DE AUTORIZARE seria RO-B-F Nr. 0427 din 2.11.2010 • IOAN FOLFĂ • CATEGORIA D

Data: ***OCTOMBRIE, 2015***

642700

708000

708100

708200

708300

642600

642500

N

V E

S

P8
39.35

P7
38.51

CERTIFICAT
DE
AUTORIZARE
Seria RO-B-J. Nr. 0513
S.C. TOPCADEX - 99 S.R.L.
Persoana juridica autorizata de ANCPI să execute lucrări de cadastru, geodezie, cartografie
CLASA I

CERTIFICAT
DE
AUTORIZARE
Seria RO-B-F Nr. 0427
din 2.11.2010
IOAN
FOLFĂ
Persoana fizica autorizata de ANCPI să execute lucrări de cadastru, geodezie și cartografie
CATEGORIA D

← Raul Prut

SCHITA CU DISPUNEREA PLANSELOR

1	2	3

LEGENDA

- Margine drum
- Margine apa
- Taluz Sus
- Taluz Jos
- Canal apa
- 1072 — Borna 1072
- UNG1 38.45 — Punct Statie
- 38.05 — Punct Cota

SC TOPCADEX-99 SRL
OTOPENI
Strada 23 August, nr. 14, bloc P100, ap. 1, Otopeni, Jud. Ilfov
Tel: 0722.238.831; Fax: 021-3110214; E-mail: office@topcadex99.ro

Redactat	Ing. Catalin FOLFA
Masurat	Ing. George VOINEA
Verificat	Ing. George VOINEA
Sef lucrare	Ing. Ioan FOLFA
Aprobat	Ing. Ioan FOLFA

Beneficiar:
COMPANIA NATIONALA DE AUTOSTRAZI SI DRUMURI NATIONALE DIN ROMANIA SA (CNADNR SA)

PLANSA
1

SCARA
1 : 1000

DATA
Oct. 2015

Elaborare Studiu de Fezabilitate pentru
"Pod peste Prut la Ungheni"
Studiu Topografic

SISTEM DE PROIECTIE: STEREOGRAFIC 1970
PLAN DE REFERINTA: MAREA NEAGRA 1975

708400 708500 708600 708700

642600 642500 642400

N V E S

UNG2 39.07

P6 38.74

1072 40.64

UNG1 38.45

P5 38.58

P4 38.99

P3 38.55

CERTIFICAT DE AUTORIZARE Seria RO-B-I. Nr. 0513 S.C. TOPCADEX - 99 S.R.L. CLASA 1

CERTIFICAT DE AUTORIZARE Seria RO-B-F Nr. 0427 din 2.11.2010 IOAN FOLFĂ ★ CATEGORIA D ★

SCHITA CU DISPUNEREA PLANSELOR

1 2 3

LEGENDA

- Margine drum
- Margine apa
- Taluz Sus
- Taluz Jos
- Canal apa
- 1072 Borna 1072
- UNG1 38.45 Punct Statie
- Punct Cota

SC TOPCADEX-99 SRL OTOPENI

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Tel: 0722.238.831; Fax: 021-3110214; E-mail: office@topcadex99.ro

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Beneficiar:
COMPANIA NATIONALA DE AUTOSTRAZI SI DRUMURI NATIONALE DIN ROMANIA SA (CNADNR SA)

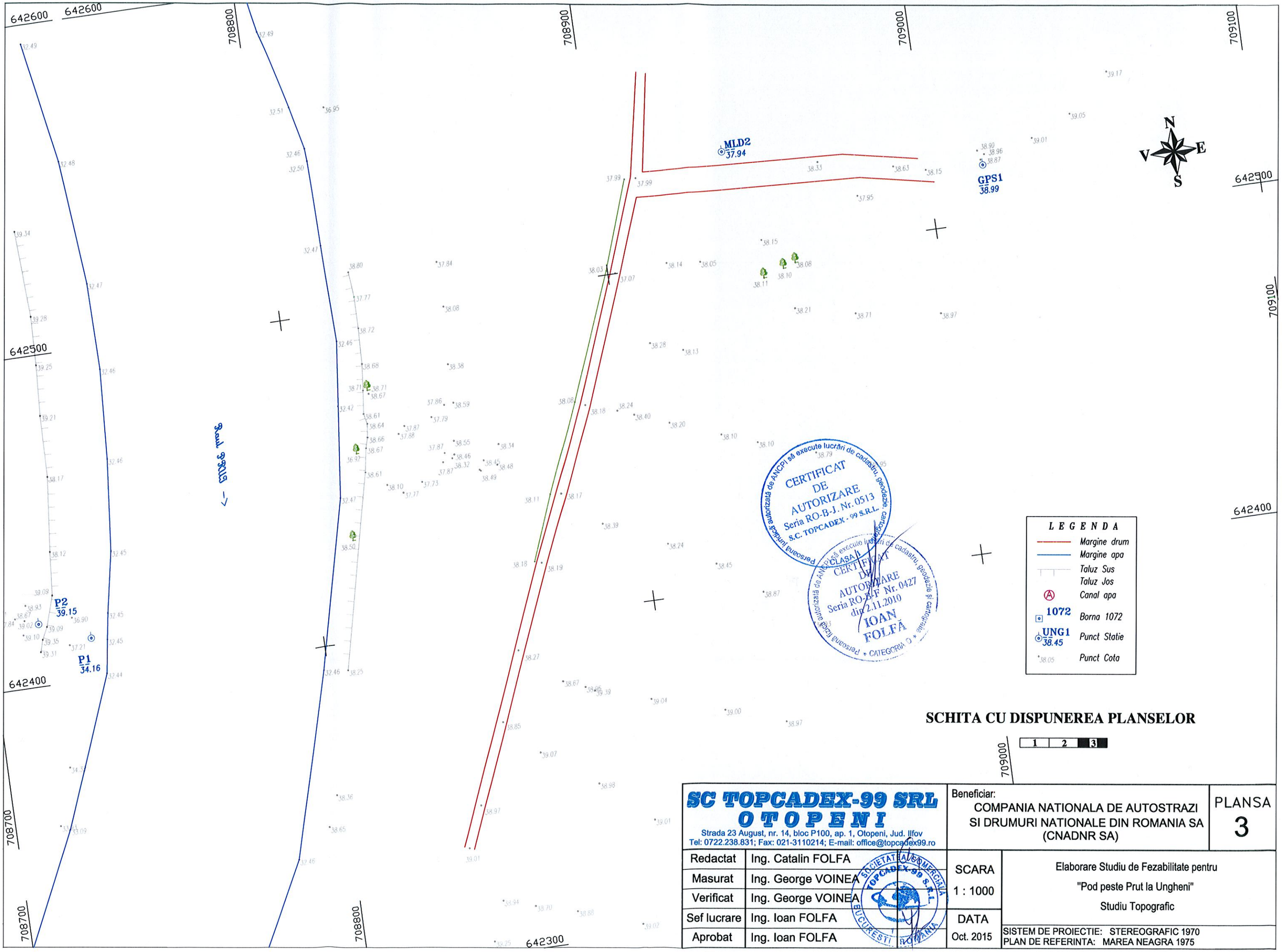
PLANSA 2

SCARA 1 : 1000

DATA Oct. 2015

Elaborare Studiu de Fezabilitate pentru
"Pod peste Prut la Ungheni"
Studiu Topografic

SISTEM DE PROIECTIE: STEREOGRAFIC 1970
PLAN DE REFERINTA: MAREA NEAGRA 1975


642600
642600
708800
708900
709000
709100
642500
642500
642400
642400
708700
708700
642300
708800
709100
MLD2
37.94
GPS1
38.99
P1
34.16
P2
39.15
N
V
E
S
Spre Ungheni ->
LEGENDA
Margine drum
Margine apa
Taluz Sus
Taluz Jos
Canal apa
1072
Borna 1072
UNG1
38.45
Punct Statie
Punct Cota
CERTIFICAT DE AUTORIZARE Seria RO-B-J. Nr. 0513 S.C. TOPCADEX - 99 S.R.L.
CERTIFICAT DE AUTORIZARE Seria RO-B-F Nr. 0427 din 2.11.2010 IOAN FOLFA
CLASA I
SCHITA CU DISPUNEREA PLANSELOR
1 2 3
SC TOPCADEX-99 SRL
OTOPENI
Strada 23 August, nr. 14, bloc P100, ap. 1, Otopeni, Jud. Ilfov
Tel: 0722.238.831; Fax: 021-3110214; E-mail: office@topcadex99.ro
Beneficiar:
COMPANIA NATIONALA DE AUTOSTRAZI SI DRUMURI NATIONALE DIN ROMANIA SA (CNADNR SA)
PLANSA
3
Redactat Ing. Catalin FOLFA
Masurat Ing. George VOINEA
Verificat Ing. George VOINEA
Sef lucrare Ing. Ioan FOLFA
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SCARA
1 : 1000
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