

## **THE REALIZATION OF DATABASE FOR THE IMPLEMENTATION OF THE SYSTEMIC CADASTRE IN THE TERRITORIAL ADMINISTRATIVE UNIT „CETATEA DE BALTĂ”, ALBA COUNTY**

*Andreea BEGOV UNGUR, Asocc.Prof. PhD. Eng, University „1 Decembrie 1918” of Alba Iulia, Romania, andreeaungur@yahoo.com*

*Cătălin COSMA, Eng., S.C. ELIS Pavaje S.R.L, cosma.catalinioan@yahoo.com*

**Abstract:** *The implementation of the systematic cadastre is the entire responsibility of the Romanian State, through the National Agency for Cadastre and Real Estate Advertising.*

*The systematic registration works are carried out at the level of a cadastral sector or several cadastral sectors. The cadastral sectors are established by the OCPI together with the City Hall before to the start of the procurement procedure by the Acquirer.*

*The role of this paper is to present as easily as possible the methodology and the steps taken for the realization of the database for the implementation of the systemic cadastre in the territorial administrative unit „Cetatea de Baltă”, Alba county.*

**Keywords:** *database, systematic cadastre, land book*

### **1. Introduction**

The role of this paper is to present, as easily as possible, the methodology and the steps taken for the realization of the database for the implementation of the systemic cadastre in the territorial administrative unit „Cetatea de Baltă”, Alba county.

In order to enroll the real estate in to the Land book, the systematic cadastre refers to [3], [4]:

- identification, measurement, description and registration of the real estate in the technical documents of the cadastre, their representation on cadastral plans and the storage of data in digital format;
- identification of owners and other holders of real estate for registration in the Land book;
- public display of the results obtained after the execution of the systematic cadastre works, the correction of the errors reported by the owners and the opening of a new Land book.

### **2. Materials and Methods**

Through a case study this paper presents, as easily as possible, the methodology and the steps taken for the realization of the database for the implementation of the systemic cadastre in the territorial administrative unit „Cetatea de Baltă”, Alba county.

The cadastral sector taken into consideration is situated in the territorial administrative unit „Cetatea de Baltă”, Alba county (figure 1).

The territorial administrative unit „Cetatea de Baltă” includes 9 cadastral sectors and has a total area of 768,5774 ha.



Fig. 1 The geographical location of territorial administrative unit „Cetatea de Baltă”

### 3. Results and Discussion

For the realization of the database for the implementation of the systemic cadastre in the territorial administrative unit „Cetatea de Baltă”, Alba county were passed the following steps.

1. The collection and integration of datas;
2. Performing topographical surveys and the processing of the measurements;
3. The realization of database for the implementation of the systemic cadastre;
4. The generating of the final documents of the systematic cadastre.

**3.1. The collection and integration of datas** - To accomplish this paper, we had at our disposal the data provided by OCPI and by the Local Authority (City Hall), namely: the boundaries of the territorial administrative unit and of the intravilans that compose it, orthophotoplans, cadastral plans (scale 1: 10000), parcel's plans in analog format, the legalized property titles, the location and delimitation plans (PADs) in analog format, data from the National Geodetic Network, agricultural register in \*.jpg format, public/private domain inventory in \*.pdf multipage files, containing the list of public/private domain inventory/land book extracts (CF extract), the street nomenclature - \*.tif files, other types of data: general urban plans and zonal urban plans (PUGs and PUZs) - \*.xls and \*.tif files.

The data presented above has been analyzed and it has been created a preliminary graphical database to start the activities specific to this paper.

### 3.2. Performing topographical surveys and the processing of the measurements

The topographical survey were performed using the GPS HI-TARGET V30.

The measurement method used was RTK which made possible the obtaining of points coordinates in real time, during the measurements.

In order to achieve the contour of the measured objective, the points coordinates were imported into AutoCAD, using the TopoLT program, through the function " Report points" (figure 2).

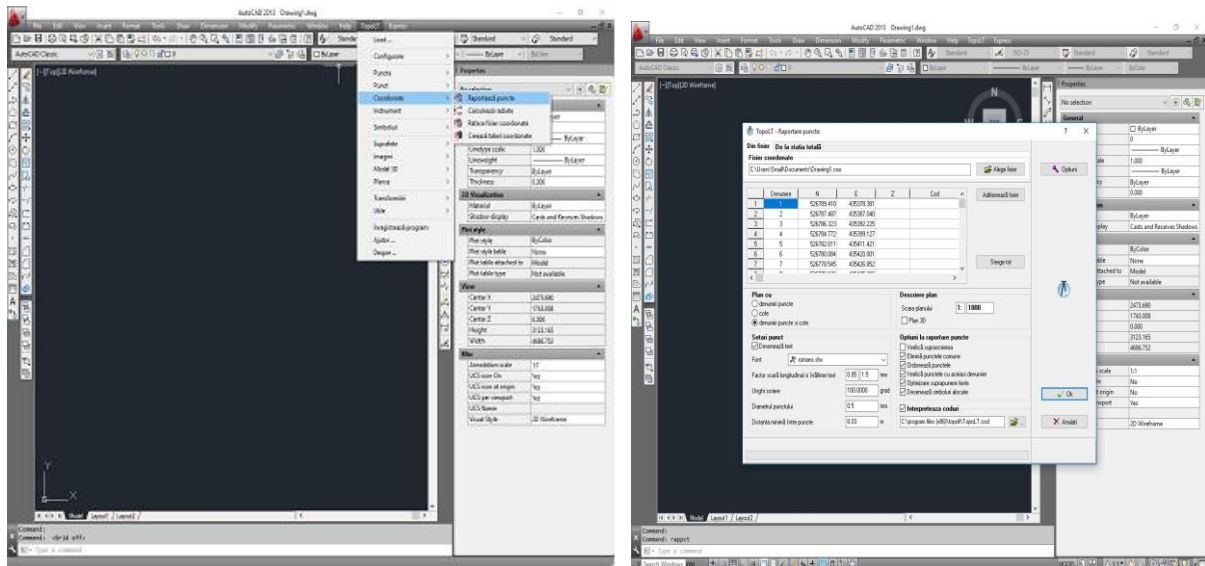


Fig. 2 The imports of points coordinates into AutoCAD

After importing the points into AutoCAD program, we recourse to joining the points based on the codes used in the field and the sketch received from the City Hall (figure 3).

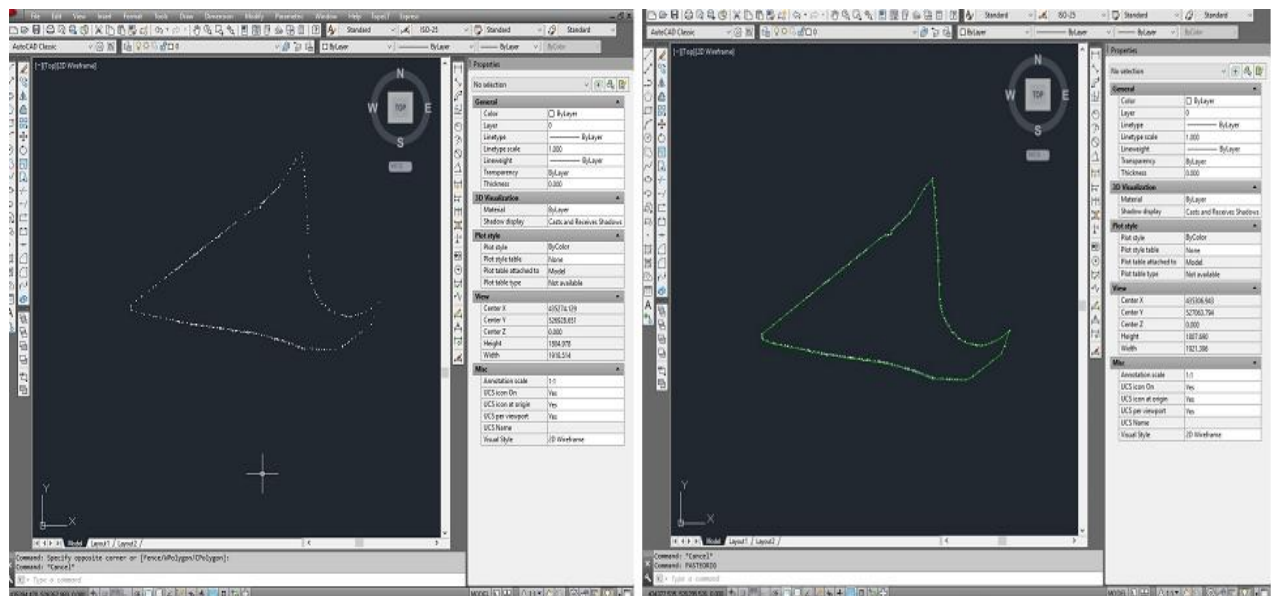


Fig. 3 The contour of the measured objective

Based on the ownership sketch was done the division of the cadastral sector into the parcels, using "Multiple detachment" command of the TopoLT application (figure 3).

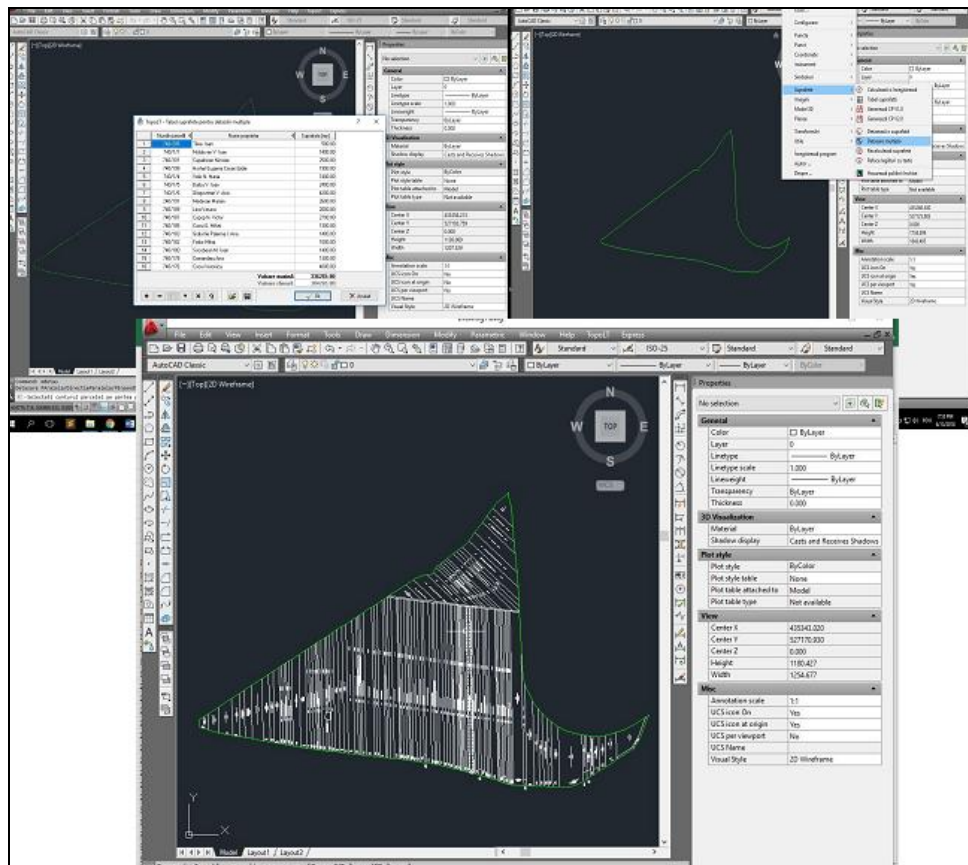


Fig. 4 The parceling of the cadastral sector

After parcellation, to each resulting parcel it was assigned an ID (electronic identifier), unique for each parcel from the cadastral sector (figure 5).

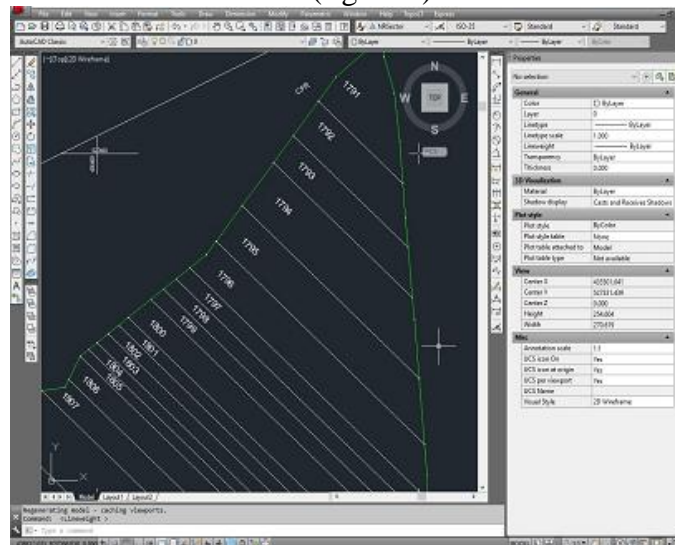


Fig. 5 The numbering of the resulting parcels

### 3.3 The realization of Excel database

Databases are a way of storing external information and data, with the possibility of easy extension and quick retrieval.

In this paper the database was created using the Microsoft Excel program (figure6).



Prenume1	Initiala1	Nume1	Defunct1	CUI/CNP1	Cui/Data1	Prenume2	Initiala2	Nume2	Defunct2	CUI/CNP2	Cui/Data2
UAT CETATEA D			DECEDAT	4562478	4562478						
NICOLAE	M	BIRSAN	DECEDAT								
MIHAI	M	LUNCA	DECEDAT	1440204011120	04-02-1944	IOAN	I	MOLDO	DECEDAT	1240915011850	15-09-1924
UAT CETATEA D			DECEDAT	4562478	4562478						
MIRCEA CORNEI	N	TETCU	DECEDAT	1550114080101	14-01-1955	RODICA		TETCU	DECEDAT	2500511080086	11-05-1950
AURELIA	M	LUNCA	DECEDAT	2311003011861	03-10-1931	MIHAI	M	ANDON	DECEDAT	1290731011846	31-07-1929
MIHAILA	I	CUCUI	DECEDAT								
IOAN	M	LUNCA	DECEDAT								
ANA	N	VALEAN	DECEDAT			EMILIA	N	HERCIU	DECEDAT	2411217322231	17-12-1941
MIHAILA	I	DASCAL	DECEDAT	1310213011851	13-02-1931						
NICOLAE	N	CUCUI	DECEDAT	1320122267396	22-01-1932						
ANICA	V	BICHIS	DECEDAT	2300302011842	02-03-1930	GHEOR	V	TODEA	DECEDAT	1271024011848	24-10-1927
VASILE	F	POPA	DECEDAT								
VIORICA	D	BOGNEAN	DECEDAT	2240627011844	27-06-1924	SINEFT	M	TETCU	DECEDAT	2230119011856	19-01-1923
ANA	I	CUCUI	DECEDAT	2230901011858	01-09-1923						
GHEORGHE	M	LUNCA	DECEDAT	1310423011854	23-04-1931						
GHEORGHE	G	STINGACIU	DECEDAT								
ANICA	V	BICHIS	DECEDAT	2300302011842	02-03-1930	GHEOR	V	TODEA	DECEDAT	1271024011848	24-10-1927
UAT CETATEA D			DECEDAT	4562478	4562478						
MIHAI	I	SALCUDEAN	DECEDAT	1740211011864	11-02-1974						
UAT CETATEA D			DECEDAT	4562478	4562478						
UAT CETATEA D			DECEDAT	4562478	4562478						
UAT CETATEA D			DECEDAT	4562478	4562478						
MIHAI	N	SAMARTINEAN	DECEDAT								
VASILE	I	SALCUDEAN	DECEDAT	1231221011844	21-12-1923						
UAT CETATEA D			DECEDAT	4562478	4562478						
MARIA	M	COTOP	DECEDAT	2271224011847	24-12-1927	ANA	M	LICA	DECEDAT		
MIHAILA	V	CUCUI	DECEDAT	1250626011186	26-06-1925						
UAT CETATEA D			DECEDAT	4562478	4562478						
NICOLAE	N	SUTEU	DECEDAT	1530405011841	05-04-1953	MARIA	V	DASCAL	DECEDAT	2460416011848	16-04-1946
UAT CETATEA D			DECEDAT	4562478	4562478						
MIHAI	N	CUCUI	DECEDAT			ANA	N	TETCU	DECEDAT		
ANDREI	N	LICA	DECEDAT	1210408011842	08-04-1921						
MARIA	N	BOACA	DECEDAT								
EUGENIA	M	MUNTEAN	DECEDAT			NICOLA	N	TATAR	DECEDAT	1171118080022	18-11-1917
UAT CETATEA D			DECEDAT	4562478	4562478						
GHEORGHE	G	SERBAN	DECEDAT			IOAN	I	TATARU	DECEDAT	1420911267406	11-09-1942
ANA	N	CAPILNEAN	DECEDAT	2350720011843	20-07-1935						
NICOLAE	P	STAN	DECEDAT	1411203267390	03-12-1941						

Fig. 6 The Excel database

The database was created to ease the work of the performer, based on it, being automatically generated the cadastral registry of the real estates, the alphabetical a index of the owners and CGXML files.

### 3. 4. The generating of the final documents of the systematic cadastre

The technical documents of the cadastre are drawn up for the cadastral sector which represents the subject to systematic registration and highlights the real technical and legal situation ascertained during the systematic cadastral work.

The final documents of the systematic cadastre are:

- the cadastral plan;
- the cadastral registry of the real estates;
- the data sheet of the real estate;
- the alphabetical index of the owners of real property rights;
- the CGXML files.

**3.4.1. The cadastral plans** - The cadastral plan (figure 7) was carried out with the program Autocad, version 2013. The overview cadastral plan at scale 1:2000 was achieved by "extracting" the items specified in the Purchaser's requirements from the database in which the entire UAT graphic is located (the UAT limit and neighborhoods, the limits and names of the intravilan, the boundaries and numbers of rthe cadastral sectors, the toponymy). All elements were created on separate layers. At the same time, elements such as title, grid, legend, name of the performer, etc. have been added. The cadastral plans were made and printed at different scales and formats so as to clearly distinguish the elements: ID, real estates limits, the owners, the category of use, the area, etc.

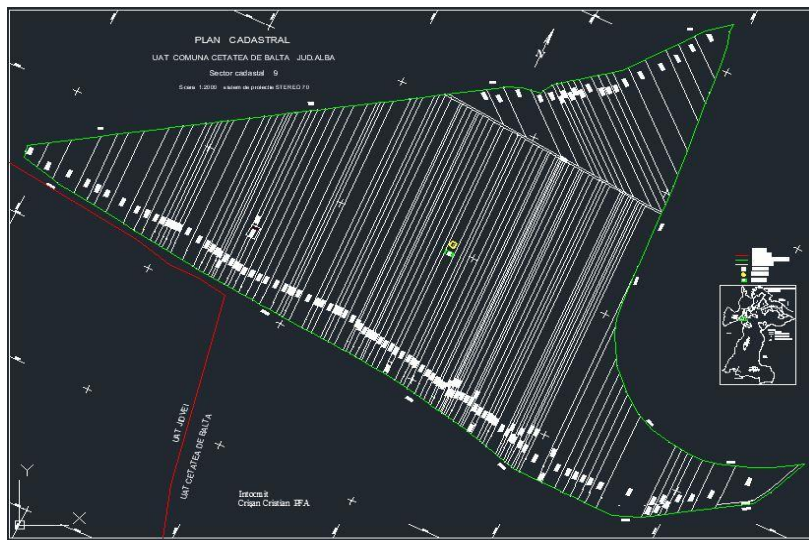


Fig. 7 Cadastral plan of Cadastral sector No. 9, UAT „Cetatea de Baltă”

**3.4.2. The cadastral registry of the real estates** - The cadastral registry of the real estates (figure 8) was automatically generated and includes data related to: description of the real estates, data about the land, data about construction, property/possession, dismemberments of the property right, data about notaries/ processes/ prohibitions.

Anexa nr. 2 – REGISTRUL CADASTRAL AL IMOBILELOR

UAT CETATEA DE BALTA

Sector cadastral nr. 9

Zona cooperativizata(Co)

1. DESCRIEREA IMOBILULUI

DATE TEREN				DATE CONSTRUCȚII											
Identificator Teren	Adresa Imobil	Nr. Cadastral <sup>2)</sup>	Nr. CF <sup>1)</sup>	Suprafata masurata	Intravilan/ Extravilan (I/E)	Nr. Top	Nr. Tarla	Nr. Parcela	Categorie folosinta	Identificator Constructie	Cod Grupa destinatie	Suprafata construita	Nr. Niveluri	Nr. C F	Constructie cu acte (DA/NU)
1792	CETATEA DE BALTA			2100	E		75	740/2	A						

2. PROPRIETATEA/POSESIA

Titularul dreptului / posesiei			Data Nasterii / CUI	Domiciliul /sediu	Cota parte	Identificator entitate asociata <sup>2)</sup>	Cota parte teren UT <sup>2)</sup>	Mod de dobindire	Act juridic		Obs. privilegiate la proprietate <sup>3)</sup>	
Nume/ Denumire	Initiala Tatalui	Prenume							Tip Act	Nr. Act/ Data	Emitent	
BIRSAN		NICOLAE		CETATE A DE BALTA CETATE A DE BALTA CETATE A DE BALTA CETATE A DE BALTA CETATE A DE BALTA CETATE A DE BALTA CETATE A DE BALTA	1/1	TEREN	RECONSTITUIRE	T.P	19598/1243 /9/3/2003	CJPSDDPAT ALBA	DEFUNCT	

3. SARCINI/DEZMEMBRAMINTE

Titular Nume/ Denumire	Initiala Tatalui	Prenume	Data nasterii/ CUI	Domiciliul /sediu	Tipul sarcinii sau al dezmembramintelor dreptului de proprietate	Cota parte	Identificator Entitate Asociata <sup>2)</sup>	Act juridic Tip Act	Nr. Act/ Data	Emitent	Valoarea Ipoteca	Tip moneda
------------------------	------------------	---------	--------------------	-------------------	--	------------	---	---------------------	---------------	---------	------------------	------------

4. NOTARI, PROCESE, INTERDICȚII

Tipul notari	Tip act	Nr. act/data	Emitent	Identificator Entitate asociata <sup>2)</sup>	Imobil impregmit/neimpregmit	Imobil contestat/necontestat <sup>2)</sup>	Alte observatii
--------------	---------	--------------	---------	---	------------------------------	--	-----------------

5. OBSERVAȚII

Fig. 8 The cadastral registry of the real estates

**3.4.3. The data sheet of the real estate** - The data sheet of the real estate (figure 9) was automatically generated and includes data about the real estate and about the owner, namely: the UAT, the cadastral sector, the ID, the parcel number, the name and surname of the owner, the statement with the consent of the owner, the ownership/possession act.

**3.4.4. The alphabetical index of the owners** – The alphabetical index of the owners (figure 10) was automatically generated and includes data related to: the name and surname of the owner, the date of birth/CUI, the ID of the real estate, the number of the cadastral sector, the address of the real estate, the area of the real estate, notifications.

Anexa nr.3 - INDEXUL ALFABETIC AL DEȚINĂTORILOR

**Indexul alfabetic al deținătorilor\*)**

Județul Alba  
 UAT Cetatea de Baltă

Nr. crt.	Nume/ denumire deținător	Data nașterii / CUI	ID <sup>1)</sup>	Planșa	Sector cadastral	Adresa imobilului	Suprafața (mp)
1	BARBU IOAN		1919	1	9	Tarla 75- Lunca Garii I	2400
2	BICHIS ANICA TODEA GHEORGHE		1802	1	9	Tarla 75- Lunca Garii I	1400
3	BICHIS ANICA TODEA GHEORGHE		1808	1	9	Tarla 75- Lunca Garii I	3200
4	BIRIS VIORICA	21-9-1927	1903	1	9	Tarla 75- Lunca Garii I	1000
5	BIRIS VIORICA POPA MARIA	21-9-1927 15-12-193	1904	1	9	Tarla 75- Lunca Garii I	1100
6	BIRSAN MARIA	30-10-1928	1839	1	9	Tarla 75- Lunca Garii I	1400
7	BIRSAN NICOLAE		1792	1	9	Tarla 75- Lunca Garii I	2100
8	BIRSAN NICOLAE		1842	1	9	Tarla 75- Lunca Garii I	2800
9	BIRSAN NICOLAE		1853	1	9	Tarla 75- Lunca Garii I	2100
10	BOACA MARIA		1824	1	9	Tarla 75- Lunca Garii I	1800
11	BOANCA NICOLAE	8222	1862	1	9	Tarla 75- Lunca Garii I	2800
12	BODOGAE LIVIU POPA MARIOARA		1845	1	9	Tarla 75- Lunca Garii I	4200
13	BODOGAE NICOLAE BODOGAE ANA		1844	1	9	Tarla 75- Lunca Garii I	2100
14	BOGNEAN VIORICA TETCU SINEFTA	27-6-1924 19-1-1923	1804	1	9	Tarla 75- Lunca Garii I	1000
15	BORDI GHEORGHE		1836	1	9	Tarla 75- Lunca Garii I	2100
16	CANDEA ANA		1874	1	9	Tarla 75- Lunca Garii I	2800
17	CAPILNEAN ANA	20-7-1935	1828	1	9	Tarla 75- Lunca Garii I	4600

Fig. 9 The data sheet of the real estate

Anexa nr.4 –FISA DE DATE A IMOBILULUI

**FISA DE DATE A IMOBILULUI**

UAT : CETATEA DE BALTA  
 Sector cadastral...9.....  
 ID imobil...1792.....

**1. DATE TEREN**

Nr. Tarla/strada	Nr. Parcela/ Nr. Postal	Suprafata masurata	Nr CF	Nr. Cad/ Nr. Top	Imprejmuit/ Neimprejmuit (I/N)	Zona Cooperativizata/ Necooperativizata (Co/NCo)
75	740/2	2100			N	Co

Observatii:

**2. DATE CONSTRUCTII PERMANENTE**

Identificator Constructie	Cod grupa destinatie	Numar niveluri	Constr. Cu acte (DA/NU)	Constructie condominiu (DA/NU)	Nr. bloc	Nr total UI	Suprafata construita masurata

Parti comune:

Observatii :

**3. PROPRIETATEA / POSESIA**

Nr. Crt.	Nume si prenume detinator/ Denumire persoana juridica	CNP/CUI	Nr. Act de proprietate/posesie	Observatii
1.	Barsan M. Nicolae		19598/1243 03.09.2003	Decedat
2.				
3.				
4.				
5.				
6.				
7.				
8.				

Posezor / Titular drept de proprietate

Reprezentantul Prestatorului

Fig. 10 The data sheet of the real estate

**2.4.5. The generation of the CGXML file – the CGXML files were generated automatically based on the data from the excel database (figure 11).**

Fig. 11 Generating the CGXML files

#### 4. Conclusion

Through a case study this paper presented, as easily as possible, the methodology and the steps taken for the realization of the database for the implementation of the systemic cadastre in the territorial administrative unit „Cetatea de Baltă”, Alba county.

For the realization of the database for the implementation of the systemic cadastre in the territorial administrative unit „Cetatea de Baltă”, Alba county were passed the following steps.

1. The collection and integration of datas;
2. Performing topographical surveys and the processing of the measurements;
3. The realization of database for the implementation of the systemic cadastre;
4. The generating of the final documents of the systematic cadastre.

Based the final documents of the systematic cadastre the real estate were registered in the land book.

#### 5. References

1. Cîmpean C., Begov Ungur A. - *The introduction of systematic cadastre in Romania. Case study: The Territorial Administrative Unit Cricău, Alba county, RevCAD Journal of Geodesy and Cadastre, No. 25/2018;*
2. Cosma Cătălin - *Lucrări topo cadastrale efectuate în vederea realizării bazei de date aferente introducerii cadastrului sistematic în localitatea Cetatea de Baltă, județul Alba - Dissertation paper, “1 Decembrie 1918” University of Alba Iulia, 2018;*
3. \*\*\*, *Ordinul nr. 533/2016 privind aprobarea Specificațiilor tehnice de realizare a lucrărilor sistematice de cadastru în vederea înscrierii imobilelor în cartea funciară;*
4. \*\*\*, *Ordinul nr. 979/05.08.2016 Specificații tehnice de realizare a lucrărilor sistematice de cadastru pe sectoare cadastrale în vederea înscrierii imobilelor în cartea funciară finanțate de Agenția Națională de Cadastru și Publicitate Imobiliară;*
5. \*\*\*, *Ordinul nr. 700/09.07.2014 al Directorului General al ANCPI privind aprobarea Regulamentului de avizare, receptie și înscriere în evidențele de cadastru și carte funciară cu modificările și completările ulterioare;*
6. \*\*\*, *Legea cadastrului și a publicității imobiliare nr. 7/1996 cu modificările și completările ulterioare;*
7. <http://www.ancpi.ro/pnccf/documente/ghid-utilizare-generare-cg.pdf>.