THE IMPORTANCE OF UPDATING THE BORDERS OF TOWNS, BASED ON THE TOPOGRAPHIC AND CADASTRAL CHECKS

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Abstract. *The case study was carried out on the administrative territory of Dumbrăviţa, Timiş County, the town adjacent to Timişoara, at the Northern border of the town.This study shows and underlines the importance of updating the limits of boundaries between towns, their correlation with the surveying and the check against the cadastral records with the land.In compiling this study, we have started with the selection of the border segment intended for verification, followed by the choice of the method of measurement, the collection of data needed from the Office of Cadastre and Land Registration, respectively, from the two town halls, i.e. the plans and records for the enforcement of the property law. After processing the measurement, I have proceeded to the correlation of the cadastral data using the topographic survey, the checks were performed by overlapping the measurement in a dwg file with the land plans, we have checked the surfaces of fields and of the plots on the both towns found at the town borders.The surveying was carried out in the field using Leica GPS equipment, Series 1200, the downloading of the setting was accomplished by means of the software Leica Geo Office Tools and data processing by means of the programs TopoLT and AutoCAD 2014. To measure the buildings was used GPS GEOMAX ZENITH 020, with dual frequency.According to the overlapping of the processing of measurements with the boundary limits provided in the Office of Cadastre and Land Registration database, there are differences which are smaller for some lots, while they are higher for others, and the legislation and the way of drafting the cadastral documentation as per Law no.7/1996 and Order no.700/2014 requires the authorised person to draft the cadastral documentation on the commune territory on which the plot location is identified, not on the town that was done putting into possession.In most cases, the boundary limits, implicitly the areas declared by the town halls to the Prefecture or to Office of Cadastre and Land Registration, are not accurate.Due to these differences and complications, multiple cadastral issues occur, followed by other administrative or fiscal problems, while the clarification and correction procedure becomes quite difficult.*

Key words: *cadastre, overlapping, limit, boundary, territories.*

INTRODUCTION

In accordance with the legislation in force, ie art. 1, paragraph 5 of Law no. 7/1996 (www.ancpi.ro), the definition of real estate is formulated as follows: "*The estate, under this law, means land with or without buildings, in the territory of administrative units belonging to one or more owners, who are identified by a unique cadastral number"*.Thus, if the limit boundary from the database of the Office of Cadastre and Land Registration (OCPI) between two neighboring localities share a estate in two parts, for the two groups will open books land on the two towns, the each with corresponding surface, although in reality there is only one plot (Popescu C., 2015).

This operation entails other "complications" because the property new created neighboring village, will be declared for taxation town that opened the Land Registry and the area declared in the administrative-territorial unit (ATU) original will decrease by lot area created on neighboring village.More serious problems arise if the owner intends to invest in such land by building or establishment of organic farming - where to obtain opinions municipalities must address both localities (Badea Gh., 2005).

ATU limits, for all the country were defined by Law no. 2/1968 (www.monitoruljuridic.ro), updated and republished in 1981, the administrative organization of the territory of the Socialist Republic of Romania, and these limits have been undertaken by municipalities and taken records of all institutions, including Prefectures county and regional offices of Cadastre.

Law no. 7/1996, updated by Ordinance no. 35/2015 (www.ancpi.ro) specifies that: *"Correction of errors identification of the boundaries, is the technique operation by which the consistent implementation of existing limits coordinates integrated cadastre of the National Agency with the legal limit and existing field boundary commission initially set based orthophotomap. Grinding operation is carried out solely by taking measurements on the ground by the territorial office to identify and find these errors integration limits and only if the limit sections are clearly identified in the field".*

Presently, we emphasize that there are very few places with the borders limits updated and digital base of OCPI not comply with the field situation and cadastral records from neighboring localities.

MATERIALS AND METHODS

For the study area, primarily land plans were used for the application of Law no. 18/1991 (OCPI database) entering into posession of fields A207, A214, A218, A219, for ATU Dumbraviţa, respectively field A197/5 and A197/1 across ATU Giarmata, also they were taken into account surface registers for mentioned fileds. I obtained from Dumbrava City Hall, surface records of construction in the area - former Avicola buildings (CC210/1, CC 212 and CC215). I superimposed plans with orthophotomap and ATU limits obtained from OCPI (Figure 1).

Figure 1 Framed plan in area

After choosing the segment limit, we chose equipment in order to carry out measurements.

For topographic operations, we chose GPS equipment from Leica, 1200 Series, device that can be used both, in static measurements (as rover or reference station) and kinematic measurements (Real Time Kinematic) - the method used in this case, use the real-time differential corrections from ROMPOS specialized service.

Downloading device was performed using Leica Geo Office Tools software, coordinate transformation, from WGS 1984 to Stereographic 1970, it was made with TransDatRo software and data processing, using TopoLT and AutoCAD 2014 programs.

I predicted determine two points station in order to raise construction contour points using Leica Ultra TCR802. We have not used these two points, it is possible to measure buildings with GEOMAX ZENITH 020 GPS, dual frequency, making downloading data in ASCII format - the coordinates are determined directly in the stereographic 1970 system.

By TopoLT are inserted ASCII files from downloading device and in AutoCad, is called reporting points command *'rappct"* (Figure 2).

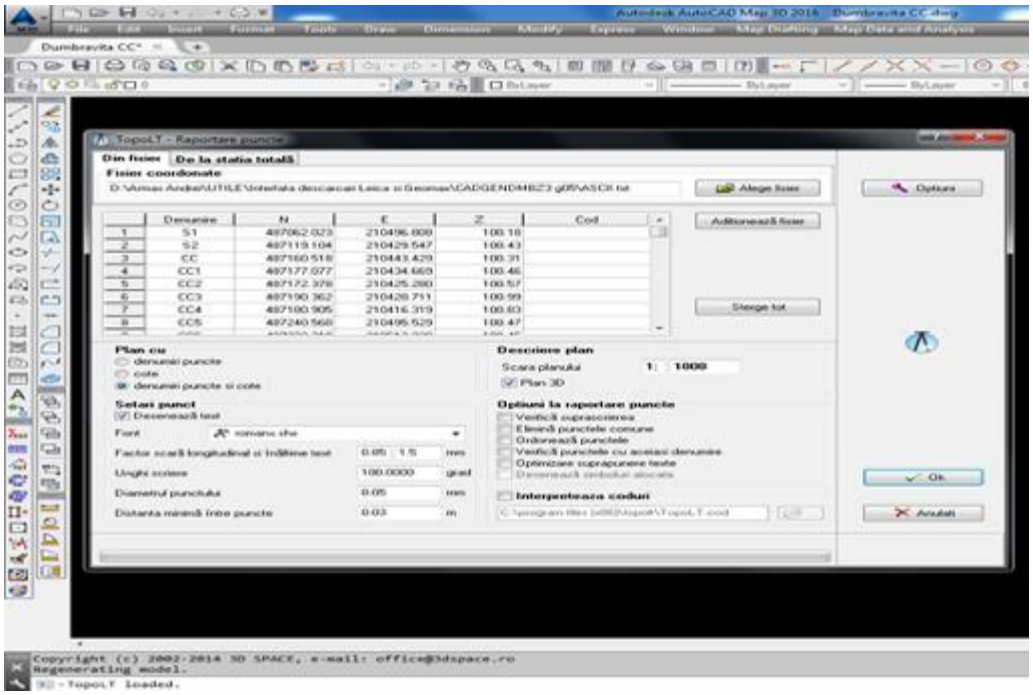

Figure 2 Reporting points command

At measurement with GPS Leica 1200 Series, was used reference station from Timisoara namely TIM1 (RTCM-REF0000TIMISOARA), it was used in measurements of roads, canals and fences in the area of interest. Dual frequency antenna type with SmartTrack GX1230 supports GLONASS signals, GPS and GALILEO L15.

After reporting points in AutoCAD (Figure 3), joined the outlines of buildings, roads and details of field, according to the codes of measurements and was overlapped on orthophotomap (Figure 4).

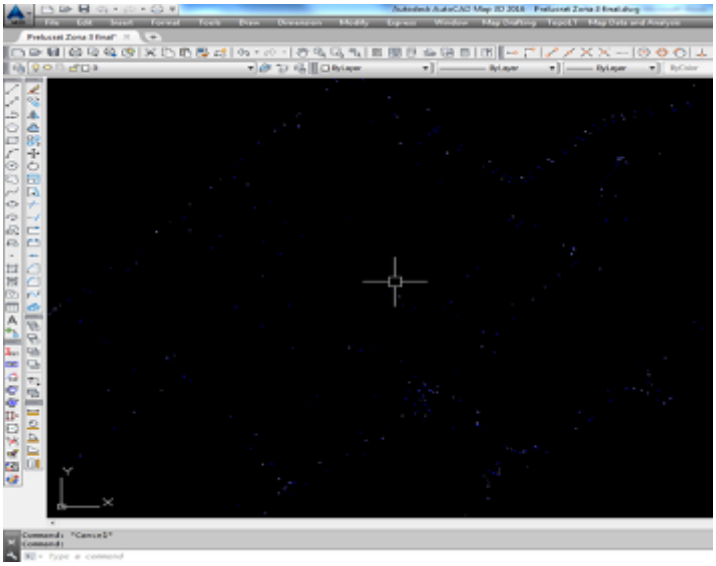

Figure 3 Points reported in AutoCAD

Figure 4 Location after processing and overlap with orthophotomap

„Office Stage", involved overlapping of all collected information in a single dwg file, but not before defining the limits of fields result of the measurement. After this, we

superimposed including limit Dumbrăvita-Giarmata (obtained from OCPI Timiş) and checked overlapping segment measured.

RESULTS AND DISCUSSION

Following research in the field and office, inconsistencies were found between the route of ATU limit and measurement on two portions. Thus, one of the sites overlap is above a fixed limit on the field - the limit is materialized through the fence, marked in the image below with yellow circle (Figure 5) - while the other site boundary limit override unwalled plots, but these, results in all parts of the PUZ in 2012, land registers were opened on ATU Dumbrăviţa (Figure 6).

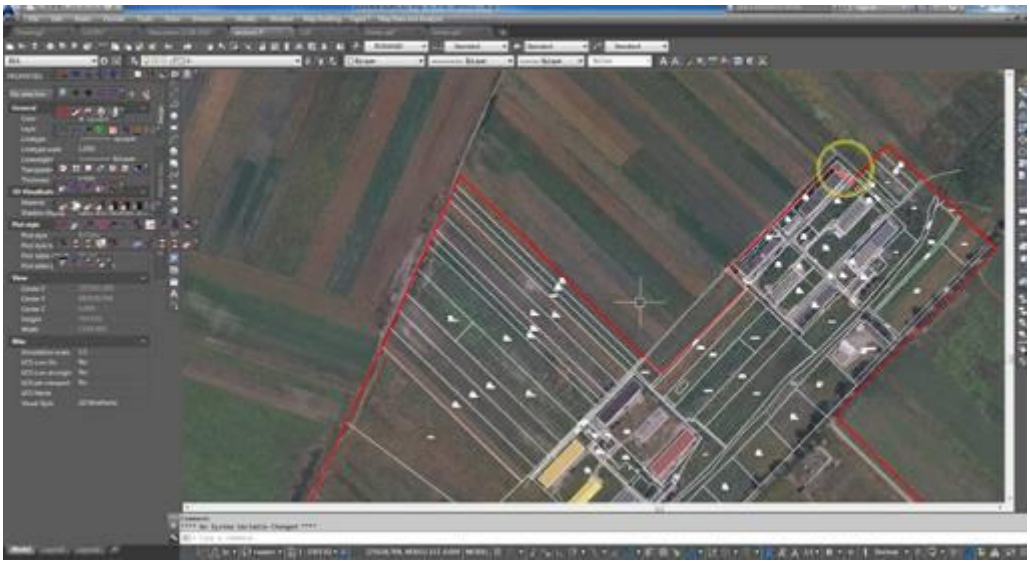

Figure 5 Zone 1 affected by the limit of ATU

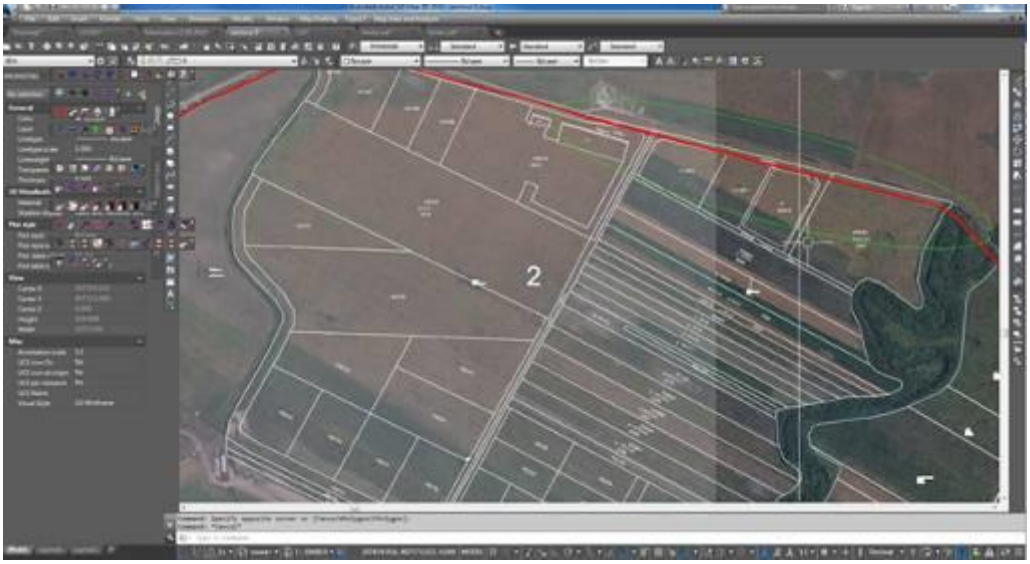

Figure 6 Zone 2 affected by the limit of ATU

From surface to 42571mp of the cadastral plot A14/1/1 which was drawn up and was finalized draft zonal development, have resulted five plots, including one destined for road and surface to 3210mp are outside the limit of the border. (Figure 5).

In a similar situation is the property CC215/5 having a surface of 3290 sqm, from that, 355 sqm is situated within the village Giarmata, although, for this land with construction there is extracted of the land registry, issued entirely on ATU Dumbrăviţa (Figure 7).

Figure 7 Parcels affected by error of ATU limit

Enclosing fence is situated at a distance of 11.45 m away from the digital limit of ATU obtained from the Office of Cadastre. If the owner of the building situated on plot 215/5

wants extension, will have to request Technical Reception documentation for Authorization of Construction. This documentation can not register for OCPI until the land has digital base, thus raising the problem that the building will be split into two lots and land that can extend their construction, registered in the Land Registry on Dumbrăviţa, will be located in the neighboring village, Giarmata respectively.

CONCLUSIONS

In order to avoid complications that may arise due to the wrong ATU limit is necessary to update the limits of borders between neighboring localities in the shortest time. We believe that the "empowered" institution to coordinate these works is the Office of Cadastre and Land Registration, an institution that has both the information and knowledge required to coordinate such work and is also able to make checks which they may require other institutions, respective municipalities or the Prefect Institution. Coordination in this case would mean checking performer (natural or legal person authorized in domain) and providing data to it and inform neighboring municipalities and county Prefecture on the work begun by a certain municipality.

The need to include the conditions for participation in systematically Cadastre projects (general or sector) of the existence the protocol neighborhood upgraded to all municipalities in the country.

Creating opportunities for obtaining funding in order to update the limits of administrative territorial units.

This paper has been prepared for the purpose of prioritizing the work of *rectification of errors in identification of the limits of territorial administrative units,* already delayed proceedings anyway.

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