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BUSINESS DEVELOPMENT BY CONSTRUCTING A RESIDENTIAL BUILDING UNDER THE LEGISLATION OF THE REPUBLIC OF SERBIA

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Abstract:*Based on the investors' requirements, was designed a residential building with Ground Floor + 1st Level + Penthouse , located on Vojnicki Trg no. 2, cadastral parcel no. 7939 K.O. VRSAC. The surface of the plot is 222.83m². The respective location has the conditions to connect to the municipal water, sewerage, electricity and gas networks. On cadastral parcel no.7939 K.O VRSAC according to the data of the Real Estate Cadastre, there is a building Ug + Gf, having an area of 135m 2 and an auxiliary object GF + O area of 28m 2. The current building itself is very old and in very poor condition, the investor sends to the Vrsac City Administration, Department of Spatial Planning, Urbanism and Construction a request for obtaining the demolition ermit due to the danger of its pre-collapse. As the building does not satisfy needs and requirements of the investor and is in unfavorable conditions of use, the new project provides the demolition of old building and the construction of a new residential building designed as an individual dwelling house with three residential units. Gf + 1st + Penthouse. After the demolition of the object will follow the submission of the application for location conditions that are necessary for the construction permit without which the construction works cannot begin which must be reported to the Department of Spatial Planning, Urbanism and Construction in order to issue a certificate of commencement of works. During these, the investor must report the completion of the foundation as well as the construction of the building in a constructive sense. These being made, the building can be connected to the municipal networks, and the Department of Spatial Planning, Urbanism and Construction will send to the Cadastre* Office a request for tabulation of building and the registration of the property right in the land book.

• Introduction

The Department of Spatial Planning, Urbanism and Constructions carries out activities related to: issuing information about the location; issuing and modifying the location conditions; building permits and decisions regarding the approval of the works; issuing a use permit application of works; completion of the construction of the foundation and building in a constructive sense; submitting applications for connection of the installation to the communal infrastructure; issuing a certificate regarding the age of the building; building legalization activities ; The real estate cadastre is the basic and public register of real estate properties and real rights over it.
The items registered in the real estate cadastre are: land (cadastral parcels of agricultural, forestry, construction, water and other lands); above-ground and underground buildings; special parts of the buildings that make up the construction unit (apartment, office space, garage and others).
The Republican Geodetic Authority (RGZ) is a special organization of the Republic of Serbia that performs professional and state administration tasks related to state inspection, real estate cadastre, line cadastre, basic geodetic works, address register, topographic-cartographic activity, evaluation real estate, geodetic works in the engineering and technical field.
Since 2008, was developed an app "eKatastar" available only for registered users, which offers access to real estate data, but since August 2012, eKatastar is publicly available to all users. Another digital platform named Geosrbija, which RGZ developed in cooperation with its Norwegian partner - Statens Kartverk (Norwegian Agency for Cadastre and Cartography), within the National Geospatial Data Infrastructure.
On the Geosrbija portal, you can find all spatial data of RZG, Statistical Office of the Republic, Hydrometeorological Institute, data about lands, facilities, addresses, protected areas, national parks, altitudes and others.
Thanks to this portal , people are able to find, view the plots and see the current situation of their buildings, using satellite images and orthophotoplan. For example: you can see if a forest has been cut off from the ground or the condition of an object in the cadastre.

• Material and method

Before start scanning the details, it's must drawn up a work order containing in particular: the name of the object, the name of the investor, the land class, the scale of the registration and mapping details, the method of recording the details, the type of marking for instruments and methods for measuring angles, lengths and height differences. Depending on the size of the plan and the map, the accuracy required, the manner in which the survey data is processed and used, and other conditions for recording detailed information, the land is classified into categories A, B, C or G.

The maps and plans are made in the Gauss-Kruger projection. The topography project will be reported to the real estate cadastre service from Vrsac, during the fulfillment of the contracted obligations, were executed next following works:

-downloading the basic geodetic data and the sketches of the old plan
- scanning the building
- making an elaboration of geodetic works

An existing geodetic network was discovered in the field, which served as the basis for the topographic measurements. The scanning of the building was done by the polar method, this method of recording details is also called tachymetry, namely fast recording. The polar method of geodetic measurement determines the coordinates of the detail points based on the observed directions, the measured lengths and the coordinates of the geodetic base points. Prior to measurement, the instrument must be tested and calibrated to realize the requirements of topographic measurement. The total station which one was used for the topographic measurements Sokkia SET 610 (Figure 1.) with suitable accessories has the capacity to measure length up to 2700m with a single prism / 1-3500m with 3 prisms.

Figure 1. The total station: Sokkia SET 610

The Sokkia SET 610 total station is flexible, efficient and an accurate detail recording tool. It is easy to transport from point to point, so the time required for work and registration is minimal. The total station was used in a prescribed manner to give the accuracy requirements of the recording (1: 1000 ratio) and the needs of investors. Upon arrival from the field, the data will be transferred to computer, the connection between the total station and the computer will be made through the data transfer cable and processed through a system with specialized software. The downloaded data will be processed using AutoCAD software package.

• Results and discussions

Topographic measurements were performed from the auxiliary points: point1 and point2 by the polar method. Before these, the auxiliary points point1 and point2 were established on the polygons line of points 4270 and 4200, calculated by the orthogonal method and it was obtained the property limits, to the street and to other nearby buildings. The investor DOO "METRUM" Vrsac, will submit an application to the Vrsac City Administration, Department of Spatial Planning, Urbanism and Construction to request approval for the demolition of the old object and construction of a new one. These location conditions are the basis for submitting applications for a building permit for development projects, and the period of validity is two years from the date of issue or expiry of the issued building permit. The building permit for this residential building will be issued according to article 135 of the law and article 17. The construction permit expires in 3 years if the start of construction has not been reported. The investor is obliged to submit the construction start report no later than 8 days before the start of the construction in accordance with art. 148 of the law and articles 31 (The reporting of works in accordance with Article 145 of the law shall be carried out to the competent authority through the CIS, no later than eight days before the start of works) and 32 (The competent authority will confirm the request for works without delay, if it compiles all the requirements). After that, the Department of Spatial Planning, Urbanism and Constructions Vrsac, in electronic way will send to the Real Estate Cadastre Service, a request for registration of property rights over the building. The scanning of the building was made on request by the investor-owner of the cadastral parcel no. 7939 K.O. Vojnicki Trg street no.1 / 2 to obtain a building permit for a new building. The geodetic works were carried out in accordance with the provisions of the project, the Law on State and Cadastre Inspection, registration of rights over the property. The built building (Figure 3 and 4) consists of:

	Purpose of use	Nr. Of evidence	Structure	Area m²
Ground Floor	Commercial space	1	6 rooms	44.19
	Garage with storage room	1	2 rooms	22.82
	Garage with storage room	2	2 rooms	22.82
Total usable area: 89.83				
1st Level	Apartment	1	1.5 (a room and a half)	50.30
	Apartment	2	1.5 (a room and a half)	46.46
Total usable area: 96.76				
2. Penthouse	Purpose of use	Nr. Of evidence	Structure	Area m²
	Apartment	3	1.5 (a room and a half)	50.30
	Apartment	4	1.5 (a room and a half)	50.52
Total usable area: 100.82				

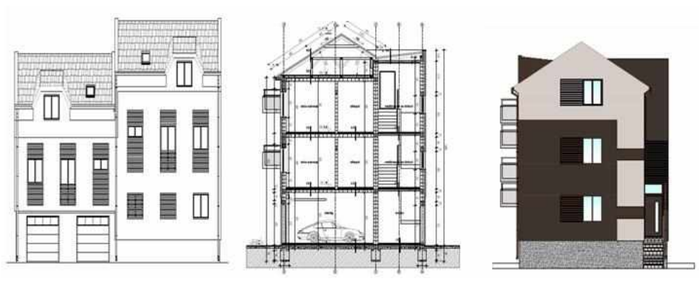

Figure 3. The built building and its dimensions

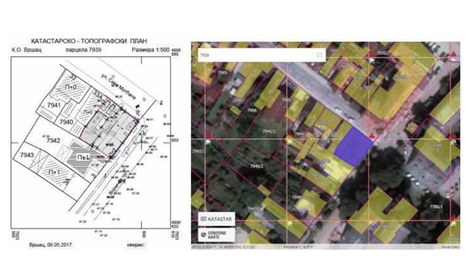

Figure 4. New construction site plan

• Conclusions

Based on all of the above, it can be concluded that the tasks defined by the investor have been fully fulfilled and comply with laws, other regulations, standards and other technical rules.

The entire procedure was carried out electronically-online eKatastar ("Sl. Glasnik Rs", no. 50/2018) the law which provides:

„eKatastar" is an information system composed of technical equipment (servers and other hardware devices, communication equipment, etc.), networks, databases data and software program, as a single central connection system entities, through which ex officio documents for registration in the cadastre are submitted, requirements for registration in the cadastre, as well as requirements for issuing electronic certificates and others acts contained in the cadastre and through which data and acts are exchanged in these procedures (in hereinafter: e-counter).

The realization of the project involved a fairly large volume of work, necessary terrestrial instruments and a fairly long period of data processing, necessary to obtain approvals for the practical application of the project itself.

The current cadastral legislation is quite difficult, which has led to quite long deadlines in order to obtain the necessary approvals to start the works.

The project started on 03.01.2019 with the release of the location conditions and ended on 14.09.2020 with the registration of the property right over the building in the land book.