

## Production of Digital Orthophoto Maps at the Scale of 1:5000 (DOP5) for the Entire Territory of the Republic of Croatia



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*Signing the agreement at the SGA  
Potpisivanje Ugovora u DGU*

Pursuant to the Law on the Treatment of Illegally Built Constructions (OG 90/11), the State Geodetic Administration has been charged with producing a digital orthophoto map at the scale of 1:5000 (DOP5) for the entire territory of the Republic of Croatia. Agreements for the production of the digital orthophoto maps at the scale of 1:5000 (DOP5) for the entire territory of the Republic of Croatia have been signed at the State Geodetic Administration. The agreements were signed by Prof. Dr. Željko Bačić, on behalf of the State Geodetic Administration, and the directors of the companies that were awarded the contract: Vinko Vučemilović, on behalf of Geodetski zavod d. d.

Osijek, and Dr. Zvonko Biljecki, on behalf of Geofoto d.o.o. of Zagreb.

In accordance with the signed Agreement, all DOP5 sheets were produced, submitted to the State Geodetic Administration and, on 22 December 2011, uploaded to the State Geodetic Administration geoportal (<http://www.geo-portal.hr>). These DOP5 sheets will be used primarily to record illegally built constructions, pursuant to the Law on Treating Illegally Built Constructions (OG 90/2011) but also for many other purposes within the State Geodetic Administration and the entire economy of the Republic of Croatia.

*Ivan Landek*

## Cartographic Signs Ordinance and Cartographic Signs Compendium

A Commission for the Production of the Cartographic Signs Compendium (Ivan Landek, Damir Pahia, Marinko Bosiljevac, Prof. Dr. Stanislav Frangeš, Dr. Marijan Marjanović, Aleksandar Tonšetić, Ivan Grubić, Antonio Šustić, Slavko Lemajić and Hrvoje Matijević) has been appointed, pursuant to a decision by the State Geodetic Administration Director-General.

All members of the Commission have participated actively in the production of the Compendium, apart from Aleksandar Tonšetić, who has died, and Hrvoje Matijević, who did not respond to invitations to attend working meetings, nor participate in the work. Instead of Aleksandar Tonšetić, the head of the Topographic Survey and Cartography, Igor Vilus, has actively participated in the development of both the Ordinance and the Compendium.

On 20 September 2010, the State Geodetic Administration produced and published on its website the draft Cartographic Signs Ordinance, along with the Cartographic Signs Compendium in digital format. Thus, public access has been granted to the draft Ordinance and the Compendium, to enable potential improvements to the prepared texts and layout of the cartographic signs and notes about them. All proposals, comments and suggestions were received by 31 December 2010.

The finished Compendium is aligned with all new laws and ordinances affecting and defining the appearance of all buildings, other constructions and areas, depicting types of land use areas and areas under special legal regimes, the layout of boundaries and other border markers, as well as metes and bounds, and a list of abbreviations for land use

types is shown, with abbreviations for special legal regimes. In addition, the appearance of all types of water mains and appertaining constructions is defined.

All cartographic signs were drawn by using the CorelDRAW X3 application package and the entire Cartographic Signs Compendium was produced in MS Word (.doc) and stored in .pdf format.

After a public viewing (1 January 2011), the Commission reviewed the opinions received during three gatherings held in January and February 2011. After amendments had been implemented, the final draft of the new Cartographic Signs Ordinance and the Cartographic Signs Compendium was developed and subsequently edited and adopted by all Commission members. The final draft of the Ordinance and the Compendium consists of 430 cartographic signs for three groups of scales

## Izrada digitalnih ortofotokarata u mjerilu 1:5000 (DOF 5) za cijelo područje Republike Hrvatske

Temeljem Zakona o postupanju s nezakonito izgrađenim zgradama (NN 90/11) Državna geodetska uprava je dobila zadatak izraditi digitalne ortofotokarte u mjerilu 1:5000 (DOF 5) za cijelo područje Republike Hrvatske. U Državnoj geodetskoj upravi potpisani su ugovori za izradu digitalnih ortofotokarata u mjerilu 1:5000 (DOF 5) za cijelo područje Republike Hrvatske. U ime Državne geodetske uprave ugovore je potpisao ravnatelj prof. dr. sc. Željko Bačić, u ime Geodetskog zavoda d.d. Osijek direktor Vinko Vučemilović i u ime Geofota d.o.o. direktor dr. sc. Zvonko Biljecki.



Sukladno potpisanim ugovorima svi listovi digitalnih ortofotokarata su izrađeni, dostavljeni u Državnu geodetsku upravu te na dan 22. prosinca 2011. stavljani na Geoportalu Državne geodetske uprave (<http://www.geo-portal.hr>). Izrađeni listovi DOF-a 5 koriste se prvenstveno za evidentiranje nezakonito izrađenih zgrada temeljem Zakona o postupanju s nezakonito izgrađenim zgradama (NN 90/2011), ali i višenamjenski za potrebe Državne geodetske uprave i cjelokupno gospodarstvo Republike Hrvatske.

Ivan Landek

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## Pravilnik o kartografskim znakovima s pratećom Zbirkom kartografskih znakova

Odlukom ravnatelja Državne geodetske uprave imenovano je povjerenstvo za izradu Zbirke kartografskih znakova (Ivan Landek, Damir Pahić, Marino Bosiljevac, prof. dr. sc. Stanislav Frankeš, dr. sc. Marijan Marjanović, Aleksandar Tonšetić, Ivan Grubić, Antonio Šustić, Slavko Lemajić i Hrvoje Matijević).

Na izradi Zbirke aktivno su sudjelovali svi članovi povjerenstva osim Aleksandra Tonšetića, koji je u međuvremenu preminuo i Hrvoja Matijevića, koji se nije odazivao na radne sastanke, niti uključivao u rad. Umjesto Aleksandra Tonšetića, u izradu Pravilnika i Zbirke aktivno se uključio načelnik Odjela topografske izmjere i kartografije, gosp. Igor Vilus.

Državna geodetska uprava izradila je i objavila na svojoj internetskoj stranici 20. rujna 2010. nacrt Pravilnika o kartografskim znakovima sa Zbirkom

kartografskih znakova u digitalnom obliku. Tim se putem provodio javni uvid o predloženom nacrtu Pravilnika i Zbirke, sa svrhom eventualnog poboljšanja pripremljenih tekstova i izgleda kartografskih znakova s njihovim napomenama. Prijedlozi, primjedbe i sugestije zaprimali su se do 31. prosinca 2010.

Izrađena Zbirka usklađena je sa svim novim zakonima i pravilnicima koji su utjecali na izgled svih zgrada, drugih građevina i površina, na prikaz područja vrste uporabe zemljišta i područja posebnih pravnih režima, na izgled međa i drugih granica i graničnih oznaka, na prikaz kratica vrste uporabe zemljišta i kratica posebnih pravnih režima. Također je definiran izgled svih vrsta vodova i pripadajućih objekata.

Svi kartografski znakovi nacrtani su programskim paketom CorelDRAW X3, a

cijela Zbirka kartografskih znakova izrađena je u MS Wordu (.doc) i spremljena u formatu pdf.

Nakon provedenog javnog uvida (1. siječnja 2011.), Povjerenstvo je tijekom siječnja i veljače 2011. na tri sastanka razmatralo pristigla očitovanja. Nakon provedenih izmjena izrađen je konačni prijedlog novoga Pravilnika o kartografskim znakovima s pratećom Zbirkom kartografskih znakova, koji je nakon toga lektoriran i usvojen od svih članova Povjerenstva. Konačni prijedlog Pravilnika i Zbirke sastoji se od 430 kartografskih znakova za tri grupe mjerila (1:500–1:2000, 1:5000–1:10 000 i 1:20 000–1:25 000), ima 248 stranice na formatu papira B5.

Važno je napomenuti da je nakon 35 godina izrađen novi Pravilnik i Zbirka kartografskih znakova koji je usklađen s

(1:500–1:2000, 1:5000–1:10 000 and 1:20 000–1:25 000), on 248 B5 pages.

It is important to stress that the new Ordinance and Cartographic Signs Compendium have been produced after 35 years and are aligned with the valid Law on State Survey and Real Property Cadastre (OG16/07) as well as the following Ordinances: Ordinance on the Content and Form of Real Property Cadastral Municipal Documentation (OG 142/08 and 148/09), Ordinance on Cadastral Survey and Technical Reambulation (OG 147/08), Water Mains Cadastre Ordinance (OG 71/08 and 148/09) and Ordinance on Topographic Survey and State Map Production (OG 109/08).

Signs Ordinance and has been in official use since 1 January 2012 (see: <http://www.dgu.hr/default.aspx?id=438>). The Compendium covers the areas of the cadastre, State survey and water mains cadastre through three different groups of scales. A copy of the printed publication was submitted in December 2011 to all natural and legal persons authorized to perform the State survey and Real Property Cadastre operations, as well as cadastral offices and branch offices, local and regional physical planning offices, counties, geodetic high schools, the Faculty of Geodesy in Zagreb, Faculty of Civil Engineering, Architecture and Geodesy in Split, and other institutions.

Cartographic signs are used to depict geodetic control points, buildings and other constructions, developed zones, water mains and appertaining constructions, transport infrastructure, vegetation, types of land use and special legal regimes on land areas, waterways and related constructions, terrain, borders and border markers as well as toponyms and abbreviations used in depictions. These also form the content of the Cartographic Signs Compendium, aligned with Article 28 of the Ordinance on Topographic Survey and State Map Production (OG 109/08).

The Compendium, which is an integral part of the Cartographic Signs Ordinance, determines the design of cartographic signs for:

- ❑ The production and maintenance of the detailed topographic map on the scale of 1:25 000 and the Croatian Base Map at the scales of 1:5000 and 1:10 000, stipulated by regulations on topographic survey and State map production.
- ❑ The production and maintenance of cadastral maps at all scales, overview cadastral maps and survey drawings used in cadastral surveys and technical reambulation and the production of subdivision and other geodetic reports stipulated by regulations on the Land Cadastre and Real Property Cadastre.
- ❑ The production of special geodetic datasets used for the production of physical planning documents and acts and other geo-referenced depictions stipulated by regulations defining physical planning issues.
- ❑ The production of special geodetic datasets, geodetic positional

drawings, geodetic projects, reports on staking out a construction and other geo-referenced depictions stipulated by regulations defining construction issues

- ❑ The production and maintenance of the water mains plan and overview mains map for survey drawings and other geo-referenced depictions used in the production of mains reports stipulated by Mains Cadastre regulations
- ❑ The production of special geodetic datasets for protected areas and wild taxa and the storage and maintenance of data on special legal regimes in cadastral municipal documentation
- ❑ The production of all geo-referenced depictions produced as part of designing and performing agricultural land consolidation
- ❑ The production of all geo-referenced depictions of the situation in the field produced as part of providing geodetic services for natural and legal persons according to regulations on performing geodetic activities.

The Cartographic Signs Compendium has not been published in the Official Gazette along with the Ordinance, since the OG is printed in black and white on A4 paper. The definition and importance of certain items in the Compendium depend exclusively on the use of different colours (47 in all).

Since it is impossible to define cartographic depiction for all objects in the real world, Article 4 of the Cartographic Signs Ordinance provides the option of using other cartographic signs for objects not defined in the Compendium. Article 5 of the Cartographic Signs Ordinance provides the option of using signs defined in the group of scales between 1:500 and 1:2000 for depictions at scales greater than 1:500.

It is also important to underline that the Ordinance defines that, when issuing copies of cadastral maps or copies of Basic State Maps, objects should be depicted in accordance with previous legislation (on cartographic signs) until aligned with the identifiers in the new Cartographic Signs Ordinance, in accordance with the programmes mentioned in Article 5 of the Law on State Survey and Real Property Cadastre (OG 16/2007 and 124/2010).

*Ivan Grubić*



*Cover page of the Cartographic Signs Compendium*

**Naslovnica Zbirke kartografskih znakova**

Pursuant to Article 14 and with respect to Article 166 of the Law on State Survey and Real Property Cadastre (OG 16/2007 and 124/2010), the State Geodetic Administration Director-General adopted the Cartographic Signs Ordinance (OG 104/2011) on 13 September 2011.

The Cartographic Signs Compendium is an integral part of the Cartographic



