

# **Environmental Management Plan**

**ZEMUN**

**Construction of new Archive Depot Building  
For  
Permanent storage and preservation of archival  
cadastral documents**

**Belgrade – Municipality of Zemun**

**August 2016**

## 1. Introduction

During the funding period 2004 - 2012 The World Bank supported Real Estate Cadastre and Registration Project (RECRP) that helped Serbia to establish the Real Estate Cadastre (REC), a single system for real property rights registration, which is under the authority of the Republic Geodetic Authority. The main aim of this Project was to extend support to the development and general advancement of the real estate market on the territory of the Republic of Serbia through formation of a unique real estate cadastre on its territory. Project had two components - Technical and Operational Development and Support (development of a methodology and formation of a real estate cadastre, as well as its maintenance combined with the quality services extended to the customers) and Institutional Development and Capacity Building of RGA. Also, as achievements of this project, the time required to register transactions has been reduced, cadastral offices have been renovated, important geodetic infrastructures have been built and customer satisfaction has improved.

Although results of the RECR Project and improvements in Serbia's real property services were significant, the Government of Republic of Serbia recognized that "there is a whole set of additional reforms in the land sector that need to be undertaken. They relate to building a unified and transparent mass property valuation system to improve property taxation, streamlining and simplifying the process of issuing construction permits, strengthening the e-governance system by enabling on-line use of data related to land and real estate, and most importantly, building the institutional capacities for implementing these reforms." In response to that, a new World Bank's funded project in the land sector has been prepared in Serbia – The Real Estate Management Project.

The development objective of new Project is to improve the efficiency, transparency and reliability of Serbia's real property management systems. The primary beneficiaries of the project are the general population, within Serbia, and internationally, with a special focus on women and vulnerable members of society to ensure that the benefits are more equally distributed.

The main focus of the project is to ensure accurate, complete and electronically available information for the improvement of services and greater transparency. Beneficiaries also include the land market professionals (lawyers, surveyors, appraisers) and organizations associated with mortgaging, who will benefit from more accurate and accessible real estate data and who will be able to provide better services to the public. Further, government agencies and local government will benefit as they will be able to easily access information about real estate for: planning and property tax purposes; for providing social and other local government services; and through improvements in the use of the real estate that they manage.<sup>1</sup>

The Project, which has been approved on March 16<sup>th</sup>, 2015 and is operational since October 8<sup>th</sup>, 2016 has four components:

1. Component A – Valuation and Property Taxation (US\$ 6 million);
2. Component B – E-governance for Enabling Access to Real Estate Information (US\$ 24 million);

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<sup>1</sup> Adlington, Gavin P. 2013. *Project Information Document (Concept Stage) - Real Estate Management Project - P147050*. Washington, DC: World Bank.

3. Component C – Institutional Development of the Republic Geodetic Authority (US\$ 17 million);
4. Component D – Project Management and Supporting Activities (US\$ 3 million).

Component A provides all the information required about lands and buildings so that a complete record is available for local government use and improve the methodology for valuing and using that property. In order to make use of this information it must be available on-line. Component B focuses on provision of on-line services relating to real estate in an e-government environment. The key agency responsible for providing the information about real estate is RGA. Component C focuses on the collection of data and institutional support to RGA. Component D provides the necessary support for this project in various aspects, from training to conducting the necessary studies and project management activities.

**Subcomponent of Component B: *Central Analogue and Digital Archives*** supports the further implementation of a digital archive by digitizing and indexing land book folios and registration and cadastre documents, using the established Digital Archive Center in Belgrade. The subcomponent provides additional equipment to speed up the scanning process and individual consultants are hired for scanning and indexing of documents and for verification and quality control of digitized documents.

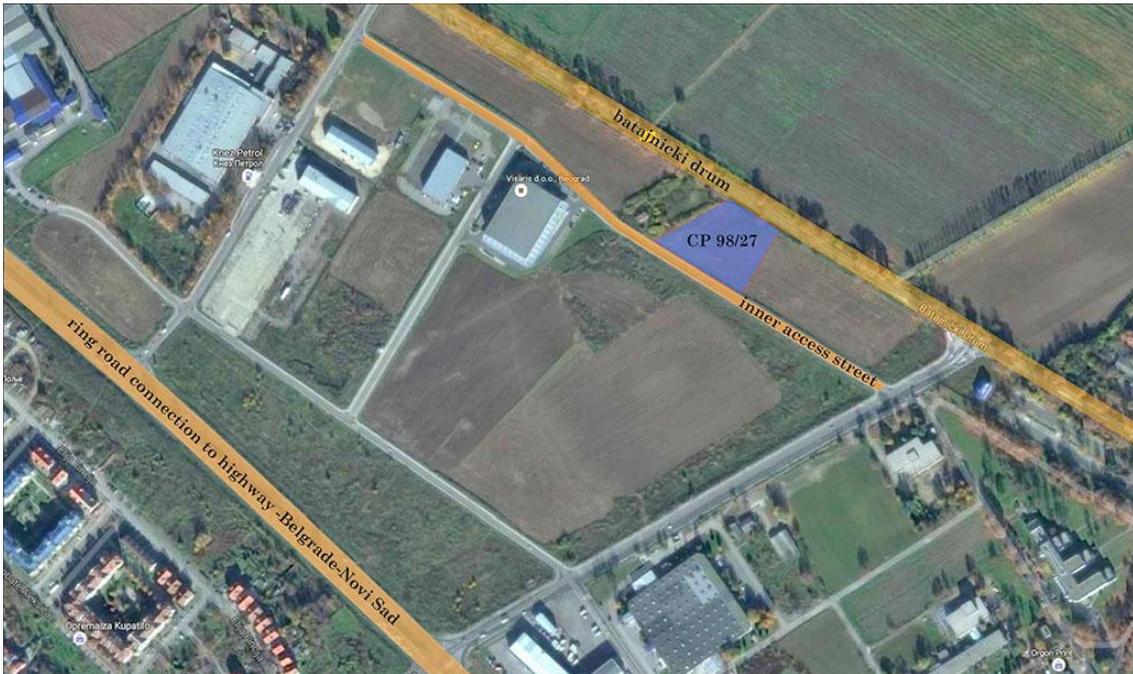
Mentioned Subcomponent supports financing of the subject of this EMP document - the construction of a Central Archive Building, which would be used for permanent storage and preservation of analog archival cadastral documents, and would also provide an area for scanning of documents. Beside construction of the building, necessary furniture, equipment, software and licenses would be procured, and training of staff to manage the central archive would be provided as well under this Subcomponent.

## 2. RGA Archive Depot Building

Serbia Real Estate Management Project, as a part of its activities, envisages support to RGA in preparation of the Main Design for construction of the Archive Depot Building in Zemun, and its subsequent execution. Currently there are no existing designs for this facility and only the basic information is available. Consequently, the attached Environmental Mitigation Plan is prepared on the basis of current information and may be further refined and finalized during the design process.

The new RGA's Archive Depot building is envisaged to be at the cadastral parcel no.98/27, Cadastral Municipality Zemun Polje, Municipality Zemun, address line Ekonomija no.1. The parcel surface is 6,000.00m<sup>2</sup>, the building is planned to have total surface of 4.000,00m<sup>2</sup> and will consist of 3 underground floors surface of 1.000,00m<sup>2</sup> per floor and one floor above ground surface of 1000 m<sup>2</sup>. The location of the new building is a part of the large business area stretching between housing estates Galenika and Batajnica.

The parcel where the Archive Depot is to be constructed is bordered by street Batajnicki Drum (old motorway Belgrade-Novı Sad), location is around 500m from the existing ring road connection to highway Belgrade-Novı Sad which provides excellent traffic connectivity. Also, there is an inner access street to access the parcel (Photo No 1). The parcel has been previously used as agriculture land and is not fenced (see Photo No 2).



*Photo No 1*



*Photo No 2*



*Photo No 3*

Following infrastructure exists on the location: electric lighting installation; telephone installations; city's gas pipeline; public water supply system; fire hydrants as well as wastewater system. (Photo No 3)

Design and subsequent construction activities related to construction of RGA Depot Archive building will be governed by a set of the national and local legislation that regulate civil works construction of "large scale" objects. The related requirements are contained in the Law on spatial planning and object building, Official Gazette of Serbia, no.72/2009, 81/2009-corr., 64/2010-resolution US, 24/2011, 121/2012, 42/2013-resolution US, 50/2013-resolution US, 98/2013-resolution US, 132/2014 and 145/2014 and related sub-legislation. The responsible institution for issuing the location and building permit is the Municipality of Zemun. The land where the facility is to be located is state owned – the owner is the Republic of Serbia. The Government of the Republic of Serbia provided consent to the RGA to perform, on its behalf, the rights of investor on the construction of the Depot Archive facility by the conclusion no.464-6433/2016. Currently the site where the facility is to be located is under agricultural crops. (Photo No 4)



*Photo No 4*

Regarding the geographical context of the site - Zemun is an urban municipality part of the Greater Belgrade area geographically located at 45.00°N 19.83°E. Parcel is located in the business area with a variety of commercial and production activities (Mikroelektonika – software and hardware production; Visaris d.o.o - digital radiography equipment; N Sport d.o.o – sport equipment; Retail Park “Zemun”; Metro Cash & Carry; Coca Cola HBC Serbia; Ball Packaging Europe; Elopak d.o.o- packaging; Karan Co- Fashion fabrics and textiles etc.) The location currently possesses major infrastructure connections: drinking water, fire hydrants, waste collection and disposal service; electric lighting installation; telephone installations and city’s gas pipeline.

Since the construction site is located in the existing and operational business area, the environmental impacts during execution of civil works will be limited to the ones which are common to all construction activities – air, dust and noise pollution, vibrations and local soil and possibly groundwater disturbance. The negative impacts will be felt only temporarily (during the works execution) and their impacts will be limited. However, application of good engineering practices and proper site and contract control will contribute to minimize or avoid negative impacts altogether.

In order to avoid, prevent or mitigate the potential occupational and community health and safety risks, potential environmental impacts on air quality, underground waters, noise disturbance, waste generation and management, the good demolition/construction practice implementing several mitigation measures is proposed within the following Environmental Mitigation Plan - EMP (Table A).

The main responsibility for implementation of EMP related measures lays on the Contractor/Sub-contractor, who needs to take into account and applies on daily basis all proposed preventive and mitigation measures. The Site Supervisor needs to perform the

supervision on the practical implementation of the mitigation measures by the Contractor/Sub-contractor, and issue corrective instructions and/or orders, if necessary.

The main inspection responsibility is, according to national legislation, given to the municipal staff (Environmental Inspector and Communal Inspector) that will be involved in monitoring the implementation of the mitigation measures and proposed Monitoring Plan (Table B).

The Project Implementation Unit within RGA will also coordinate the overall working plan related to RGA Depot Archive, construction schedules, implementation progress and implementation of proposed measures for avoidance and/or minimization of environmental, health and safety risks.

During the operational phase, when the RGA Archive Depot is completed and operational, the main activity related to environmental protection will be related to preparation of the Fire Protection Plan and Plan for Regular and Preventive Maintenance of the object (sewer and water supply systems, heating devices, equipment).

## A. ENVIRONMENTAL MITIGATION PLAN

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
<b>Construction of the RGA Archive Depot building for Permanent storage and preservation of archival cadastral documents</b>	<b>a) OH&amp;S issues</b>  Possible adverse health impacts to the workers, facility users and general population in the community due to:  Location is in the business - urban area	Local/ short term	<ul style="list-style-type: none"> <li>➤ Adequate warning tapes and information signs around the new construction need to be provided and maintained during the civil works;</li> <li>➤ For the workers - the legally prescribed health and safety measures should be applied, like: a) use of proper protective clothing and equipment by employees, especially masks against dust and small wooden parts and fibers, and safety harnesses for work at heights; b) Maintain a good level of personal hygiene; c) Health protection-first aid kits and medical service on sites need to be provided during the works;</li> <li>➤ The surrounding area should be kept clean, without waste disposed there. The waste need to be collected and immediately removed from the yard as it could be a cause of injury.</li> <li>➤ The project site should be fenced and lit during nights;</li> <li>➤ Follow safety guidelines for the storage, transport, and distribution of hazardous materials to minimize the potential for misuse, spills, and accidental human exposure</li> <li>➤ Regular maintenance of vehicles to minimize potentially serious accidents caused by equipment malfunction or premature failure.</li> <li>➤ Using labeling and placarding (external signs on transport vehicles)</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor – Bidder</li> <li>• Supervisor</li> </ul>

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	<p><b>b) Waste management</b> Possible adverse environmental impact and health effects could occur due to inappropriate waste management with various waste streams</p>	Local/ short term/	<ul style="list-style-type: none"> <li>➤ Preparation of the Waste Management Plan for the expected waste streams during the construction phases of the project;</li> <li>➤ Identify the hazardous and non-hazardous waste and separate them at the construction site;</li> <li>➤ Very small quantities of glue, paint, packaging waste from paints and glue, aluminum profiles, screws and other construction material could be found after the finalization of the project and manage in accordance with national HW legislation (collection of hazardous materials, label as hazardous waste and give to the authorized company);</li> <li>➤ The contract with the company for waste collection and transportation should be signed for collection and transport of waste;</li> <li>➤ The materials should be covered during the transportation to avoid waste dispersion;</li> <li>➤ Burning of construction waste is prohibited;</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor – Bidder</li> <li>• Supervisor</li> </ul>
	<p><b>c) Water quality</b> a) Possible environmental impact on the underground water could occur due to ground contamination from the spillage of materials such as</p>	Local/Short term/probable Low	<ul style="list-style-type: none"> <li>➤ Transportation vehicles should be enclosed to avoid potential leakage;</li> <li>➤ Possible hazardous waste (motor oils, vehicle fuels, lubricants) should be collected separately and authorized company should be sub-contracted to transport and finally dispose the hazardous waste;</li> </ul>	<p>Contractor – Bidder Supervisor</p>

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	vehicle fuel, motor oils, lubricants			
	<p><b>d) Noise</b></p> <p>a) The construction activities and traffic will cause noise and vibration due to the machinery and vehicles used for transport of construction materials, transport of workers, and transport of waste</p>	Local/Short term/	<ul style="list-style-type: none"> <li>➤ The equipment should be fitted with appropriate noise devices that will reduce sound level;</li> <li>➤ The level of noise should not exceed more than 55 dB during the day and evening and 45 dB during the night;</li> <li>➤ The construction work should be not permitted during the nights, the operations on site shall be restricted to the hours 7.00 -19.00;</li> <li>➤ The vehicles that are excessively noisy shall not be operated until corrective measures have been taken.</li> </ul>	<p>Contractor – Bidder Supervisor</p> <p>Communal Inspector/Environmental Inspector</p>
	<p><b>e) Air quality</b></p> <p>The construction activities will initiate emissions from the mobile sources (vehicles and construction machinery) of CO<sub>2</sub>, NO<sub>x</sub>, PAH, SO<sub>2</sub> and suspended particulates (PM<sub>10</sub>, PM 2.5).</p>	Local/Short term/Low significance/	<ul style="list-style-type: none"> <li>➤ Usage of protective masks for the workers;</li> <li>➤ Vehicles and construction machinery will be required to be properly maintained and to comply with relevant emission standards;</li> <li>➤ Conduction of regular maintenance of the vehicles and construction machinery in order to reduce the leakages of motor oils, emissions and dispersion of pollution;</li> <li>➤ Vehicle loads have to be covered to prevent emission of dust;</li> <li>➤ Construction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days;</li> <li>➤ Construction materials should be stored in appropriate covered places</li> </ul>	<p>Contractor – Bidder Supervisor</p>

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	<p>The airborne dust will be caused by dismantling of the equipment, excavation, vehicle movement and handling with materials, particularly around the construction site</p>		<p>to minimize dust;</p> <ul style="list-style-type: none"> <li>➤ Open burning of debris will not be permitted;</li> <li>➤ Restriction of the vehicle speed within the construction location;</li> </ul>	<p>Communal Inspector/Environmental Inspector</p>
<p>Operational phase</p>	<p>No environmental risks are expected.</p> <p>The Fire prevention Plan should be prepared addressing the identification of fire risks and ignition sources, as well as measures needed to limit fast fire and smoke development.</p> <p>The Plan for regular and preventive maintenance should be prepared to ensure proper operation of all infrastructure components (sewer system, storm-water system, water supply system, heating devices, etc) and to ensure keep records on all technical documentation.</p>			

## B. MONITORING PLAN

What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored ?	When is the parameter to be monitored (frequency of measurement)?	Why is the parameter to be monitored?	Cost		Responsibility	
					Construct ion	Operati ons	Construction	Operations
<b>Project stage: Start up of the construction activities</b>								
The community safety regulation and protection measures applied	Around the project sites	Visual checks	Every working day during the project activities	To ensure minimization of health and safety risks			Contractor - Bidder Supervisor Municipality RGA	RGA
The OH& S protection measures applied for the workers at the sites	On the project sites	Visual checks	Every working day during the project activities	To minimize the risks on occupational health and safety of the workers			Contractor - Bidder /Supervisor/ Municipal staff (Communal and Environmental Inspector)/	
Level of dust – fine particulate matters	At the construction site	Visual monitoring and measurement	On the sunny, dry days only (once a week at the peak working hour)	To avoid and minimize the dust concentration into the air and to minimize the health risks for the workers			Contractor – Bidder and authorized company for dust	

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					Construction	Operations	Construction	Operations
		t devices					measurements	
Collection and transport as well storage of hazardous waste (if any occur).	On safety temporary storage	Review the transportation list and conditions at the storage facility	Before the transportation of the hazardous waste (if there is any)	To improve the waste management practice on municipality and national level.			Authorized Contractor for collection and transportation of hazardous waste (if there is any occur) subcontracted by the Contractor-Bidder  Environmental inspector	
Noise level	On the site	Monitoring of the noise levels  dB (A) with appropriate monitoring devices	On regular basis during the work, in accordance with the national legislation	To monitor if the noise level is above/or below the acceptance noise level for that type of area			Contractor – Bidder  Authorized Company for performing noise levels measurements subcontracted by the Contractor – Bidder  Environmental Inspector to collect	

What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored ?	When is the parameter to be monitored (frequency of measurement)?	Why is the parameter to be monitored?	Cost		Responsibility	
					Construction	Operations	Construction	Operations
							the noise level measurements	
Exposure of loud noise from vehicle machine, mechanization and equipment	On the construction site	Review the noise level technical specifications of the used vehicle, mechanization and equipment for their usage outside	Before the beginning of the work (first day) for all vehicles and equipment	To protect the workers against exposure to loud noise taking into account the technical specifications of the equipment and time duration of the work outside			Contractor - Bidder Supervisor Environmental Inspector /Inspector for communal work	
<b>Project stage: Operational phase</b>								
Drinking water quality	Before the distribution through the new water supply system, the water sample should be analyzed by the Authorized laboratories – Public Health institute Accredited	Laboratory equipment for physical-chemical and microbiological water quality analysis	Before the start with operation	To ensure the distribution of high quality drinking water, minimizing the health risks of waterborne diseases				RGA officials  Public Enterprise “Vodovod i kanalizacija“

What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored ?	When is the parameter to be monitored (frequency of measurement)?	Why is the parameter to be monitored?	Cost		Responsibility	
					Construction	Operations	Construction	Operations
	laboratories							
Fire Protection Plan	Before the start of RGA Depot operation	Review of the Plan	At the beginning of RGA Depot work	To ensure that all fire protection measures are implemented				Municipal staff (Communal and Environmental Inspector) RGA
Plan for regular and preventive maintenance of the object	Before the start of building operation	Review of the Plan	At the beginning of RGA Depot work	To ensure maintenance of the object				(Communal and Environmental Inspector) RGA