

REPUBLIC OF SERBIA
Ministry of Construction, Transport and Infrastructure

Serbia Railway Sector Modernization Project

**ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN (ESMP) CHECKLIST**

SER-SRSM-RFB-PLANT-24-70

Replacement of light signals on railway level crossings

septembar 2024

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ABBREVIATIONS

Abbreviation	Full term
CHMP	Cultural Heritage Management Plan
RLC	Railway Level Crossing
E&S	Environmental and Social
EHSG	World Bank Group Environmental, Health and Safety Guidelines
EPR	Emergency preparedness and response plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
GIIP	Good international Industry Practices
GRM	Grievance Redress Mechanism
OG	Official Gazette
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
RLC	Rail Level Crossing
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
WB	World Bank
IŽS	Serbia Railway Infrastructure (Infrastruktura Železnice Srbije)
RoS	Republic of Serbia
SRSM	Serbia Railway Sector Modernization Project
PIU	Project Implementation Unit
WB	World Bank

1 INTRODUCTION

Railway signaling is a vital component of railway infrastructure and operations. Traffic safety at road crossings, in most cases, is not only a railway technical issue, but the most common issue of self-discipline and traffic culture of drivers and pedestrians as participants in road and pedestrian traffic.

In order to improve the safety of road vehicles passing over RLCs, during 2023, Republic of Serbia adopted new amendments to the Law on Safety in Road traffic, by which the existing light signals on RLCs consisting of two horizontal alternating red lights are to be replaced by traffic lights – semaphores, consisting of vertically aligned single red and yellow lights. The new solution gives direct and clear information to drivers of the road vehicles, similar to usual traffic lights present on road intersections, thereby eliminating any eventual confusion if the driver should stop at the RLC. Following the new amendment, the infrastructure managers have a set deadline to replace the existing light signals on RLCs with the new semaphores.

There is a total of 2,121 level crossings managed by IZS and all of them are secured. How a particular level crossing will be secured is regulated by several factors, mainly the road category, traffic loads and visibility. The Component financed by WB has been split into two groups of RLCs (Railway Level Crossings), in accordance with their individual scope of work, and which will be contracted independently of each other.

This ESMP Checklist covers only the Replacement of light signals on RLCs.

The Scope of works includes 214 RLCs located on the entire railway network of Republic of Serbia. Scope of works for RLCs includes only the replacement of existing traffic signalization with new semaphores and adequate vertical signalization, while the RLC devices / barriers are existing and the new equipment will only be interfacing with the existing safety devices.

SUB-PROJECT DESCRIPTION AND LOCATION

1.1 General information

General information are listed in the table below.

Table 1: General information

Name of the sub-project	Replacement of light signals on railway level crossings
Purpose	The main purpose of the activity is upgrading security and safety of the entire railway network.
Beneficiary	Serbia Railway Infrastructure
Location	Multiple (214 locations) on entire railway network, at crossing points with roads of different categories. The crossings are located on 11 main railways out of 28 in total; 10 regional railways out of 25 in total; 3 manipulative railways out of 8 in total.
Cadastral parcel and municipality	The activity takes place on the territory of the following cities and municipalities: Apatin, Beograd, Bor, Čačak, Doljevac, Jagodina, Kanjiža, Kikinda, Knić, Kraljevo, Kruševac, Lazarevac, Loznica, Majdanpek, Mladenovac, Negotin, Niš, Pančevo, Požarevac, Prokuplje, Ruma, Šabac, Šid, Smederevo, Smederevska Palanka, Sombor, Sonta, Sremska Mitrovica, Subotica, Svilajnac, Valjevo Velika Plana, Zaječar, Zrenjanin.
Landowners	The affected land plots are all located within the railway infrastructure zone; they are owned by the Republic of Serbia and used by Serbia Railway Infrastructure.

Are there any associated facilities¹ related to the sub-project?	No
Is the sub-project aligned with spatial planning documents?	N/A
Documentation	The Scope includes Design, Supply & Installation of Replacement of light signals on railway level crossings
Is the sub-project protected cultural heritage?	No
Is the sub-project located within the archaeological/cultural protection zones?	No
Is the sub-project located within the nature protection areas or special nature management sites?	No

1.2 Description of the location

The activity takes place on 214 locations across Serbia, which cover most of the railway network, at crossing points with roads of different ranks. The locations are diverse, they vary from RLCs located in towns, to those surrounded by agricultural fields. The RLCs are territorially located in the following municipalities: Apatin, Bor, Čačak, Doljevac, Jagodina, Kanjiža, Kikinda, Knić, Kraljevo, Kruševac, Lazarevac, Loznica, Majdanpek, Mladenovac, Negotin, Niš, Pandev, Požarevac, Prokuplje, Ruma, Šabac, Šid, Smederevo, Smederevska Palanka, Sombor, Sonta, Sremska Mitrovica, Subotica, Svilajnac, Valjevo Velika Plana, Zaječar, Zrenjanin

There will be no need for building access roads in any of the project locations. No additional land is needed, as all works will be performed on public land, within the railway infrastructure zone.

1.3 Technical description (Traffic lights and other elements, if any)

The RLCs are currently equipped with automatic or half-automatic RLC devices with barriers or half-barriers, light signals and eventual sound signals.

The replacement of light signals on RLCs shall include the design, supply and installation services. The activities are: Dismantling of existing devices and equipment relating to installation of new RLC traffic lights – semaphores and their transport to storage site defined by IŽS; Installation of new railway light signalization - Semaphore; Interface with the existing activation devices and other RLC equipment as needed; Eventual concrete works on foundations or bases for existing or new equipment as needed and all other electro-technical works for successful commissioning of each level crossing and the new Semaphores. Other equipment is not defined yet and will depend on traffic light definition of design, however, it is not expected to be substantial and include elementary tools, possibly installation of cables, etc. There will be no installation of significant other equipment. The Project does not include works on railways tracks, however, there will be works near it (while the line is in the operation and the trains will be passing) and as well as work with electricity therefore, the focus of this E&S assessment and mitigation will be on Occupational Health and Safety (OHS) and Community Health and Safety, ensuring safety of workers, vehicles, pedestrians and passengers. It is expected that the existing electricity supply will remain adequate for the new traffic light.

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Figure 1: Existing RLC light signal



Figure 2: RLC Semaphore

2 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

Minor to moderate environmental and social risks and impacts are expected during the construction and operation phase, moderate being only OHS and CHS aspects. Although no environmental and social adverse impacts during design phase are expected, the design documentation will be prepared in accordance with the national legislation and the WB environmental and social protection standards, WB Environmental, Health and Safety Guidelines (EHSG) and Good international Industry Practices (GIIP) to make sure no unpredicted negative impacts occur.

2.1 Potential impacts during design phase

No significant negative impacts are expected in the design phase. The traffic lights are prefabricated. The existing two horizontal alternating red lights are to be replaced by traffic lights – semaphores, consisting of vertically aligned single red and yellow lights. Key risks are expected in the area of OHS, and Community HS.

2.2 Key potential impacts during construction

The main risks during the construction phase are related to occupational and community health and safety. The contractor must have a Health, Security and Safety Management Plan, approved by the Supervising engineer/appointed person within the PIU. This Plan will reflect the requirements of the Rulebooks 227 and 227a, and requirements of this ESMP Checklist. The changes in the train schedule are not expected.

The changes in the train schedule are not expected. To avoid any potential accidents, the railway rulebooks 227 and 227a will be strictly respected (elaborated in the detail in the ESMP and site-specific OHS). The communication between the stations are explained in detail on these rulebooks.. Change of a traffic light (semafor) will be completed within 24 hours.

The construction site must be organized and secured in line with national legislation, ESMP Checklist and in the safe manner.

To be able to accept and address any community grievances, the grievance mechanism must be in place on the construction site, visible and accessible on all locations.

There will be no toxic waste.

2.3 Key potential impacts during the operations phase

The key risk in the operation phase is traffic light malfunction. There is an existing protocol of Serbia Railways for the event of malfunctioning of the traffic signalization, including the traffic light. A plan for maintenance and dismantling will be prepared before the operations phase. There is also a risk from inadequate waste management of electronics, and illegal dumping.

3 ESMP CHECKLIST

Following the requirements which arise from ESMF (ESF, WB EHSG, national regulation, GIIP), the Environmental & Social Screening Questionnaire has been prepared in order to screen for the potential environmental and social risks and impacts of this activity, as well as to establish an appropriate E&S risk rating and specify the type of environmental and social assessment required, including specific instruments/plans.

Purpose and Concept of the ESMP Checklist

The ESMP Checklist provides “pragmatic good practice” and it is designed to be user friendly and compatible with WB safeguard requirements. The checklist-type format attempts to cover typical mitigation approaches to common works with localized impacts.

This document will help assess potential environmental and social impacts associated with the proposed sub-project, identify potential environmental and social improvement opportunities and recommend measures for the prevention, minimization and mitigation of adverse environmental and social impacts.

3.1 Application of the ESMP Checklist

ESMP Checklist is a document prepared by the Project Implementation Unit (PIU) of the Ministry of Construction, transport and infrastructure (MCTI), while the final beneficiary is IŽS. The ESMP checklist has one (1) introduction section and three (3) main parts

Introduction or foreword part consists of the following sections:

- introduction, in which the characteristics of the proposed activity are described, the environmental and social category, as well as the potential environmental and social impacts are defined, and the concept and application of the ESMP checklist are explained;
- monitoring and reporting (brief description of the monitoring and reporting process including responsibilities of involved stakeholders).

The three main parts included are:

- part 1 - constitutes a descriptive part (“site-passport”) that describes the sub-project details in terms of physical location, the institutional and legislative aspects, the sub-project description, inclusive of the need for a capacity building program and description of the public consultation process, if applicable;
- part 2 - includes the environmental and social screening in a simple Yes/No format followed by mitigation measures for any given activity;
- part 3 - is a monitoring plan for activities during sub-project implementation (it retains the same format required for standard World Bank ESMPs).

4 MONITORING AND REPORTING

In the table part of (Part 2 and Part 3) clear mitigation and monitoring measures are explained in detail and will be included in the works contract.

Design mitigation measures include reduction measures, fire safety measures, waste management measures and climate change mitigation measures. Mitigation measures for works subject to this ESMP Checklist include protection measures for occupational health and safety and community health and safety. The mitigation measures for construction phase include the general measures related to site organization and OHS, community health and safety, measures to prevent the risk of pollution of surface water/ground water/soil due to spill leakage, as well as the risks related to generation of construction and other waste. Finally, mitigation measures for the operations phase include community health and safety and waste generation and management.

Good communication between all involved stakeholders (Designer/Contractor, Supervising engineer, PIU and other relevant stakeholders) is very important for providing undisturbed performance of the project activities and successful completion of overall project.

Environmental and social monitoring during project implementation will provide information about key environmental and social aspects of the sub-project, particularly the environmental and social impacts and the effectiveness of mitigation measures. The Monitoring Plan for monitoring the implementation of mitigation measures ensures daily and periodic monitoring of the implementation of the Mitigation Plan and reporting to the Project Implementation Unit.

Monitoring and reporting of compliance with this ESMP Checklist during design phase will be ensured by PIU E&S specialists, while during construction phase it will be ensured by Supervising engineer and PIU (Environmental and Social specialists). Supervising engineer will report on E&S compliance to PIU. PIU (E&S Specialists) will submit ESMP Implementation Report to WB semiannually. Since this subproject (replacement of light signals on railway level crossings) is potentially shorter-time activity, at least one ESMP Implementation Report will be prepared and submitted before works are completed.

In line with Project procedures in the case of accidents/incidents, the Supervising engineer will inform PIU on occurrence of accident without delay and within 12 hours. The PIU will inform the WB immediately and within 48 hours of an accident in line with the accident procedure. E&S Specialists at PIU will prepare and implement an incident reporting procedure, indicating details of the incident, institutional responsibilities, immediate measures to address the reported incident and information requirements to be provided by the Supervising engineer. Supervising engineer will have to fulfil the Notification Report.

An acceptable E&S measures implementation and monitoring report from the contractor or supervising engineer would be a condition for full payment of the contractually agreed remuneration, the same as technical quality criteria or quality surveys. In the case of significant incompliance as well as failure to implement corrective E&S measures, the PIU and WB reserve a right to cease works as well as payments until compliance is re-established.

5 ESMP CHECKLIST FOR REPLACEMENT OF LIGHT SIGNALS ON RLCs

5.1 Part 1. General project and site information

General project and site information are listed in the following table.

Table 2: General project and site information

INSTITUTIONAL & ADMINISTRATIVE				
Country	Serbia			
Project title	Replacement of light signals on railway level crossings			
Scope of the sub-project and activity	In total, the scope includes: - Dismantling of existing devices and equipment relating to installation of new RLC traffic lights – semaphores; - transport to storage site defined by IŽS; - Installation of new railway light signalization; - Interface with the existing activation devices and other RLC equipment as needed; - Eventual concrete works on foundations or bases for existing or new equipment as needed; - All other electro-technical works for successful commissioning of the new Semaphores;			
Implementation arrangements (Republic of Serbia)	PIU environmental and social supervision Sonja Markov Ivan Radovanović	Monitoring compliance	Inspectorate Supervision	Contractor
SITE DESCRIPTION				
Name of site	214 locations on the Serbian railway network			
Describe site location	Each site location is located within the railway infrastructure zone (land on both sides of the railway in a width of 25 m, measured from the centerlines of the end tracks). These locations already contain railway equipment for safety of road vehicles passing over RLCs, such as: automatic or half-automatic RLC devices with barriers or half-barriers, light signals, eventual sound signals, which will be replaced, with new railway light signalization. Railway and road categories are different: from main lines to manipulative ones, while the roads are local and state roads.			
Who owns the land?	Republic of Serbia, Used by IŽS			
Valid operating permit, licenses, approvals etc.	N/A			
LEGISLATION				
Identify national & local legislation & permits that apply to sub-project activity(s)	Environment and Nature: Law on Environmental Protection (LEP) (“Official Gazette of RS” No 135/2004, 36/2009, 36/2009 – other law, 72/2009 – other law, 43/2011 – CC ruling, 14/2016, 76/2018, 95/2018 – other law and 95/2018 – other law. The Law on EIA (LOEIA) (“Official Gazette of RS” No. 135/2004 and 36/2009) Law on chemicals ("Official Gazette of the RS. 36/2009, 88/2010, 92/2011, 93/2012 and 25/2015), Law on Strategic Environmental Impact Assessment (Official Gazette of RS of the RS, no. 135/04) transposes into Serbian legislation the SEIA Directive (2001/42/EC) The Law on Protection against Environmental Noise, (“Official Gazette of RS” No 36/2009 and 88/2010) Water:			

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	The Law on Water (“Official Gazette of RS” No. 30/10, 93/12, 101/2016, 95/2018 and 95/2018 – other law) Occupational and Community Health and Safety: The Law on Occupational Safety and Health organized (“Official Gazette of RS” No. 101/2005, 91/2015 and 113/2017 -other law) The Labor Law (LL) (“Official Gazette of RS” No. 24/2005, 61/2005, 54/2009, 32/2013, 75/2014, 13/2017- CC ruling,113/2017 and 95/2018 – authentic interpretation) Construction and Spatial Planning: The planning and construction law was published in "Official Gazette of the RS", No. 72/09 of September 3, 2009, corrected "Official Gazette No. 81/09 (Corrigendum), changed by Constitution Court of RS ruling 64/10 (CC), 24/11, 121/12, 42/13 (CC), 50/13 (CC), 98/13 (CC), 132/14 145/14, 83/2018, 31/2019, 37/2019 (other law), 9/2020, 52/2021 and 62/2023 Labor management and Gender Equality: The Labor Law (LL) (“Official Gazette of RS” No. 24/2005, 61/2005, 54/2009, 32/2013, 75/2014, 13/2017- CC ruling,113/2017 and 95/2018 – authentic interpretation) Law on gender equality (official Gazette of the RS no 52/2021) Waste Management: The Law on Waste Management (“Official Gazette of RS” No. 36/2009, 88/2010, 14/2016, 95/2018 and 36/2023) Fire protection: Law on Fire Protection (“Official Gazette of RS” no. 111/09 and 20/15) Cultural heritage: The Law on Cultural property (“Official Gazette of RS” No. 71/94, 52/11 – other law, 92/11 – other law) Stakeholder Engagement: The Law on Free Access to Information of Public Importance (Official Gazette or the RS 120/04, 54/07, 104/09 and 36/10) Other: Law on road traffic safety ("Official Gazette of RS", No. 41/2009, 53/2010, 101/2011, 32/2013 - decision US, 55/2014, 96/2015 - law, 9/2016 - decision US, 24/2018, 41/2018, 41/2018 – other law, 87/2018, 23/2019, 128/2020 – other law and 76/2023) Law on Amendments to the Law on Road Traffic Safety ("Official Gazette of RS", No. 76/2023) Law on Safety in railway traffic ("Official Gazette of RS", No. 41/2018)
PUBLIC CONSULTATIONS	
Identify when / where the public consultation	The ESMP Checklist will be published and made available for public for 14 days at the Ministry of Construction, Transport and Infrastructure web site, with a call for

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process took place and what were the remarks from the consulted stakeholders	comments and suggestions. A hard copy will be made available at the PIUs reception desk/office during the consultations. All received complaints and suggestions, comments will be logged in and addressed. Minutes of the consultations will be added as an annex to the final version of the ESMP Checklist.
INSTITUTIONAL CAPACITY BUILDING	
Will there be any capacity building?	☒ N or ☐ Y

5.2 Part 2. Environmental and Social Screening

Results of environmental and social screening are shown in table below, while environmental and social mitigation measures are shown in next table.

Table 3: Environmental and Social Screening

PART 2: ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include / involve any of the following potential issues / risks:	Activity	Status	Additional references
	A. General conditions and social risk management	☒ Yes ☐ No	If “Yes”, See Section A below
	B. Installation of traffic lights	☒ Yes ☐ No	If “Yes”, See Section A,B, C, E, F, H below
	C. Impact to cultural and historical heritage	☐ Yes ☒ No	If “Yes”, See C below.
	D. Biodiversity and Nature protection areas / Natura 2000 sites	☐ Yes ☒ No	If “Yes”, See Section D below
	E. Waste management	☒ Yes ☐ No	If “Yes”, See Section E below
	F. Traffic safety	☒ Yes ☐ No	If “Yes”, See Section A,B,F below
	G. Land acquisition²	☐ Yes ☒ No	If “Yes”, See Section G below
	H. Safety during works (from electricity and accidents)	☒ Yes ☐ No	If “Yes”, See Section H below

² Land acquisition covers people's displacement, lifestyle changes, disturbance of private ownership and affecting people living and / or staying or running a business (kiosks) on the land or nearby

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Table 4: Environmental and social mitigation measures

Parameter	Mitigation measures checklist
A General conditions and social risk management	
General design WB EHS Guidelines³ (DESIGN PHASE)	Designs are prepared in accordance with the Rulebook on traffic signalization (Official Gazette of the RoS, number 85/2017, 14/2021 and 21/2024) The designs are aligned with applicable WB EHSG requirements.
Community Health and Safety (DESIGN PHASE) Fire protection	The sub-project is designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements, WB EHSG, GIIP and in accordance with an internationally accepted life and fire safety (L&FS) standards.
Site organization (CONSTRUCTION PHASE)	All legally required permits, authorizations, opinions, etc. have been acquired for the project activities and are kept on site. Contractor/subcontractors have valid operating licenses. Align the work with weather conditions which can factor in safe organization of works and OHS measures. OHS risks for the work positions have been assessed and OHS requirements and adequate protocols prescribed and communicated to workers. OHS protocol/plan is available at the construction site, and all occupational health and safety measures are ensured (all emergency response protocols and instructions have to be available at site, e.g. in case of fire, accident, etc.). Assign person who is in charge of establishment and management of GRM (communication with and receiving requests/complaints, local population and construction workers). Appropriate installation of sign posting of the project sites inform workers of key rules and regulations to follow. Considering the expected duration of the works (of several hours), maximum use will be made in the period of time when trains are not running. However, if the works are to be undertaken during regular traffic, according Rulebook 227, Rules on the Types of Signals, Signal Markings and Railway Markings (adequate for alerting traffic/pedestrians, and other participants in the traffic), which define the type and length of the sound signal when a train approaches the place where work is being done, e.g. the sound signal must be sufficiently loud, and frequent to alert. Nearby the work zone, there will be road traffic signs informing car drivers, pedestrians and other, about the road works, which will be defined and approved before and during the execution of works. Warning signs will be installed in a visible place/position. The nature of the signs will depend on the road level and road features such as frequency of traffic. Signs, depending on the road category, are: speed limit signs (50 km/h) and a "traffic jam" sign will be posted, manual traffic regulation, then another correction will follow speed at 30 km/h. The existing signalization and traffic signs will remain, unless the change is initiated by changes in the law. This signaling will be placed on both sides of the level crossing. The auxiliary worker - the flagman or light signalization (or other adequate mean of safe traffic organisation will be in place) is located 20 meters in front of the first obstacle. The location will have necessary elements of construction site (The works zone is the part of the road on which the changed traffic regime was determined during the replacement works), which includes and temporary physical barrier towards the road and railway tracks (e.g. fence). If the railway line remains in operation, ensure appropriate marking in and out of the construction sites /section by section and speed-reduction signs.

³ According to the HCF Design Considerations described in the Environmental, Health, and Safety Guidelines for Health Care Facilities

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Parameter	Mitigation measures checklist
	Temporary material storage is clearly marked. No temporary storage of construction materials and waste occurs within any type of private property. Construction activities are limited to day hours. No noisy activities are scheduled for the night work. The surrounding area near the project is kept clean and good housekeeping practices are applied at the site. Works are carried out in a safe way. The contractor has multiple copies of the SRSM external grievance mechanism submission form available on each construction site (digital copy available on the MoCTI website). Producer of concrete possesses all necessary concessions, working and OHS permits, and emission permits and quality certifications. All transportation vehicles are equipped with appropriate emission control equipment, regularly maintained and attested.
Community Health and Safety (CONSTRUCTION PHASE)	The public is informed in a timely manner about the upcoming works, through appropriate notification in the media and/or at publicly accessible sites (including the site of the works). In an event where the traffic will be interrupted the Contractor organizes alternative routes and inform the public, in a timely manner, about the alternative traffic regulation. Safe passages are provided for pedestrians. Entry for unauthorized persons within the construction site is prohibited (fences or other markings are used when/where needed). There is appropriate marking in and out of the construction sites /section by section and speed-reduction signs. Roads are regularly swept and cleaned at critical points. Spilled materials are immediately removed from a road and cleaned. Strictly respect the railway rulebooks 227 and 227a, GIIP and WB EHSG, stricter ones prevailing. Fire alarming and fire safety measures are in place. The contractor has a workers' internal grievance mechanism. The contractor has a workers' code of conduct that informs workers of key rules and regulations to follow. Workers do not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. Workers do not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions. This is included in the contractor's code of conduct. Works are organized in a safe manner for workers, communities and other stakeholders; All working and traffic signs must remain visible at the site – e.g. where traffic light has e.g. st andew's cross attached to it, the sign should be posted on a visible position before works; no vehicles will be parked to block view to the railway line or crossing, etc. Ensure works are not interfering safety of vehicles or pedestrians at crossings (e.g. ensuring good visibility at all times). The light must be replaced in one go. If the workers leave the site, alternative/auxiliary traffic light must be provided.
Occupational Health and Safety (CONSTRUCTION PHASE)	OHS implemented in line with the national legislation and WB EHSG Speed of trains will be reduced to 20km/h in the area of works. The driver will also sound signal its arrival. According to IŽS procedures, if the devices at the crossing are not functional, the train driver is informed by a general order at one of the previous stations, and in that case he must stop in front of the crossing and continue driving. Also, if there are works in the railway zone, all workers must be trained to work on the railway and be informed by the IŽS representative about all precautionary measures, especially for railways with KM. There is also a railway warning sign that is placed along the track on the length of the stop way, which is a notification to the train driver that work is being carried out in the track area and he gives sound signals all the way to the collision point, which is a signal to

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Parameter	Mitigation measures checklist
	the workers to get off the track and that the train is approaching. Whenever possible, the works will be organized while the trains are not running. In addition to sound sirens, in according to the Procedures, there will be communication (by existing procedures) between the train driver, workers, station chefs, etc. The workers will be informed of the upcoming train as well as having the train schedule. Engaged workers are trained and regularly use/wear Personal Protective Equipment (PPE) complying with national legislation international good practice (ESH and safety glasses, safety boots, harnesses when needed and other work specific protective equipment). All dangerous spots in the working sites such as pits, trenches, etc. are clearly marked and fenced (according to the rulebook 227a, GIIP and WB EHSg, stricter ones prevailing). Staff is properly trained for the positions and work performed (including OHS); workers hold valid workers certificates. First aid kits are available on the site and personnel trained to use it. Appropriate informative and warning signposting of the sites inform workers of key rules and regulations to follow. Machines and heavy vehicles are handled only by experienced and appropriately trained personnel, thus reducing the risk of accidents. Procedures for cases of emergency (including spills, accidents, fire etc.) are available at the sites and conveyed to all employees. Devices, equipment and fire extinguishers are always functional, so in case of need they could be used rapidly and efficiently. Supervision of fire protection/fire-fighting facilities to be carried out by a designated staff. Constant presence of attested firefighting devices are ensured on sites in case of fire or other damage. Their position is communicated to workers and marked. The level of fire-fighting equipment is assessed and evaluated through a typical risk assessment. The transportation routes outside the construction areas (local, county and state roads) is kept clean. Wages and contract conditions offered to all staff should be in keeping with Serbian labor laws or higher set standards which should be competitive in all categories of workers, and all workers should be informed about their rights. Internal GRM mechanism for contractor and sub-contractor workers established and implemented. Access to good conditions sanitary facilities (toilets, washing facilities, etc.) and potable water is provided for all workers.
Accidents and emergencies (CONSTRUCTION PHASE)	In the case of significant accident/incident (fatality, serious injury, larger spilling, fire, and similar) the PIU is notified within 12 hours. Activities will be carried out in accordance with the Project's Incident/Accident Procedure. Emergency Preparedness and Response (EPR) plan prepared for construction works shall cover actions that is taken to ensure staff/worker's safety from fire and other accidents.
Community Health and Safety (OPERATIONS PHASE)	Regular control and maintenance of the semaphores and surrounding area
B Construction activities	
Noise (CONSTRUCTION PHASE)	Maximum permissible noise level for the construction site is 65dB. It is allowed to exceed that level for additional 5 dB in the period from 8 to 18 hours. It is allowed to exceed that level for additional 5 dB in the period from 8 to 18 hours. When performing construction works during the "night" time period, the equivalent noise level must not exceed 40 dB. It is desirable to carry out works in the period from 8 to 18 hours and not to carry works during the nights.

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Parameter	Mitigation measures checklist
	Community is informed in advance of any work activities to occur outside of normal working hours or on weekends. Obtain permission from competent authorities. All equipment is maintained in good operating condition and be attested. Employees are asked to use personal hearing protection equipment in the cases defined by the article 8 of Ordinance on the protection of workers from noise exposure at work (OG 46/08). During operations the engine covers of generators, air compressors and other powered mechanical equipment are closed, and equipment is placed as far away from nearby residential houses as possible.
Materials management (CONSTRUCTION PHASE)	Ensure the subcontractor has all the necessary skills and experience and precautionary systems in place to prevent a wash off of bituminous materials (primer or primer binder). Water in bitumen emulsion production or concrete is not contaminated (however, technological water is preferred). Equipment is cleaned in areas where there is no impact to the environment. All materials are approved by the site engineer. Materials temporarily stored on site are protected and separated. HDPE pipes are not to be in touch or stored next to oil, coatings, solvents, etc.
C Cultural Heritage Protection	
Cultural Heritage Protection (CONSTRUCTION PHASE)	In the case of chance finds, the works are stopped immediately, WB and competent authority informed without delay and instructions of the competent authority adhered to. Works can recommence only when the competent authority allows this, in writing. In the case accidental damage takes place to cultural heritage, the activity causing the damage is stopped immediately, WB and competent authority informed without delay and instructions of the competent authority adhered to. Works can recommence only when the competent authority allows this, in writing.
E Waste generation and management	
Waste generation and management (CONSTRUCTION PHASE)	Each type of generated waste on the location is separately collected (main fractions including hazardous) temporary stored in separate waste container which have to be labelled with waste type name and waste code and located at the solid surface foreseen for that purpose on the construction site. All waste, including construction waste is handed over to the licensed collectors and disposed exclusively on the licensed landfills or licensed processing plants. Dismantled traffic light will include non-hazardous waste category 17 04 05, iron and steel, and minimal amounts of category 16 02 16, components removed from discarded equipment are expected to be generated. Waste management at the level of IŽS is defined by the Waste Management Plan. The generated waste is separated, identified and collected at the point of generation in packaging adapted to its properties (toxic, flammable, etc.), quantity, method of temporary disposal, transport and final treatment. All specified by the documentation that follows the waste generated during the work process in IŽS (point 4.4. WMP).

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	2. In case of hazardous waste is generated primary selection is carried out, packaging and labeling, and Internal transport non-hazardous waste. All material declared as waste in "IZS" . it is handed over/sold to authorized operators for further treatment. All waste is handed over with appropriate documentation to the companies authorized for the waste management (companies that have adequate waste permit). Whenever feasible the contractor reuses and recycles appropriate and viable materials. In the case of hazardous waste, information on handing over waste to the final destination must be obtained. Whenever feasible the contractor should reuse and recycle appropriate and viable materials. Mineral (natural) construction wastes is separated from general refuse, organic, liquid and chemical wastes by on-site sorting and temporarily stored in appropriate containers. Depending on its origin and content, mineral waste has to be reapplied to its original location or reused with an approval from the competent authority and the beneficiary. Burning or illegal dumping of waste is strictly prohibited.
F Traffic safety	
Traffic safety (CONSTRUCTION PHASE)	In case of expected impacts to local traffic, a Traffic Management Plan is developed. Traffic management is conducted in accordance with provisions of traffic legislation (e.g., appropriate lighting, traffic safety signs, barriers and flag persons that are seen easily or are easy to follow, road speed is clearly posted). Spilled materials are immediately removed from roads cleaned. Access of the construction and material delivery vehicles are strictly controlled, especially during the wet weather. Provision of safe passages and crossings for pedestrians where construction traffic interferes. Avoiding major transport activities during rush hours or times of livestock movement.
H Safety during works (from electricity and accidents)	
Protection measures from electric shock and other accidents (including traffic)	Works will be organized in the safe manner including to prevent electric shocks. All electrical work must be carried out only by a licensed electrical worker. Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer recommendations for maximum permitted operating voltage of the portable hand tools. Double insulating / grounding all electrical equipment used in environments that are, or may become, wet; using equipment with ground fault interrupter (GFI) protected circuits. Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas Conducting detailed identification and marking of all buried electrical wiring prior to any excavation work. Attend specific training on protection from high-voltage and electricity shocks provided by Serbian Railways Infrastructure Works are supervised by authorized supervisor, Provide a detailed schedule with names of all working personnel, of where and when work is done It is prohibited to place or stock next to the track, and especially near visible railway signals and markings, colored lights or any other things that are colored, shaped or light, or otherwise make it difficult to detect railway signals or may affect off.

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	Do not change of position of switches or other devices that provide train traffic, take action or use a braking device, unless this could prevent the risk to train safety, safety of passengers and other persons. Stockpiling in zones close to high voltage systems and contact lines is not allowed. Works are performed by experienced workers equipped by appropriate helping devices especially adapted for these purposes. Any connection or closeness of contact wire, side wire, or parts for its fixing or leaning (isolators, parts of cantilever etc.) is forbidden. In such zones, working with water is forbidden. Next to the pillars of contact line, it is forbidden to set up, or place any kind of material. Approach to the pillars has to be clean. Throwing of metal parts in zone of contact wire is forbidden. There are some records with fatal consequences, as for example, fast withdrawing of steel measuring ribbon. On certain positions and according to appropriate regulation books, the safety of working space should be ensured by pole grounding. Poles are placed and removed only by authorized person. Identification of these certain positions and application of the regulation books are with the contractor, OHS and works coordinator. .

5.3 Part 3. Monitoring Plan

Table 5: Monitoring plan for Project components

What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)	
						Implementation	Supervision
PREPARATORY PHASE							
All required permits are obtained before construction works start	Office	Desk review	Before works	Ensure safety and quality, following standard procedures	Within the Project costs/budget	Contractor	Contractor
All required trainings will be carried before the works commence	Office	Desk review	Before works	Ensure safety and quality	Within the Project costs/budget	Contractor	Investor
Project and Worker’s grievance mechanism (GRM) established before works commenced	Office	Desk review	Before works	Ensure safety and quality	Within the Project costs/budget	Contractor	Investor
Public and relevant institutions are notified	Office	Desk review	Before works	Ensure safety and quality	Within the Project costs/budget	Contractor	Investor
Safety measures related to traffic of trains are approved by the competent authorities and communicated to operators.	Office	Serbia Railway Infrastructure standard procedures and ESMP Checklist measures	Before works	Ensure safety and quality	Within the Project costs/budget	Contractor	Investor

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What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)	
						Implementation	Supervision
Supervision is in place.							
Alertness and communication plan is prepared satisfactory to the PIU	Office	Desk review	Before works	Ensure safety and quality	Within the Project costs/budget	Contractor	Employer/Supervising person
CONSTRUCTION PHASE							
The project is executed in accordance with design documentation and obtained permits, and the ESMP Checklist	Site	Visual, site and document inspection	Before works and during installation	Ensure safety and quality	Within the Project costs/budget	Contractor	Supervising engineer/appointed person
The construction site is kept tidy and safe.	At the project site	Visual, site and document inspection	During installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
The construction site is properly marked.	At the project site	Visual, site inspection	During installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
All hazardous places on the construction site (e.g. ditches, holes, materials) are marked and protected in such a way as to prevent injury.	At the project site	Visual, site and document inspection	During installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
Protective clothing and equipment, is	At the project site	Visual, site and document inspection	Before works, during installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person

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What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)	
						Implementation	Supervision
available in sufficient quantity and used regularly.							
The safety of pedestrians and workers is ensured.	At the project site	Visual, site and document inspection	Before works, during installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
All machinery and vehicles are switched off when not in use.	At the project site	Visual, site	During installation	To ensure community and worker safety, air quality	In the Project budget	Contractor	Contractor
Sufficient number of containers for municipal and other waste is provided on the construction site	At the project site	Visual, site	Before works, during installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
Protection of workers from electric shocks, high voltage and other OHS measures are in place.	At the project site	Contractor OHS document inspection	Before works, during installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
	At the project site	Visual, site	During installation	To ensure OHS and protection of life and health	In the Project budget	Contractor	Supervising engineer/appointed person
If soil or water contamination occurs, will it be disposed of and managed in accordance with	Site, Office	Visual inspection, Desk review	During works	Maintain soil and water quality, prevent contamination	Within the Project costs/budget	Contractor	Employer/Supervising person

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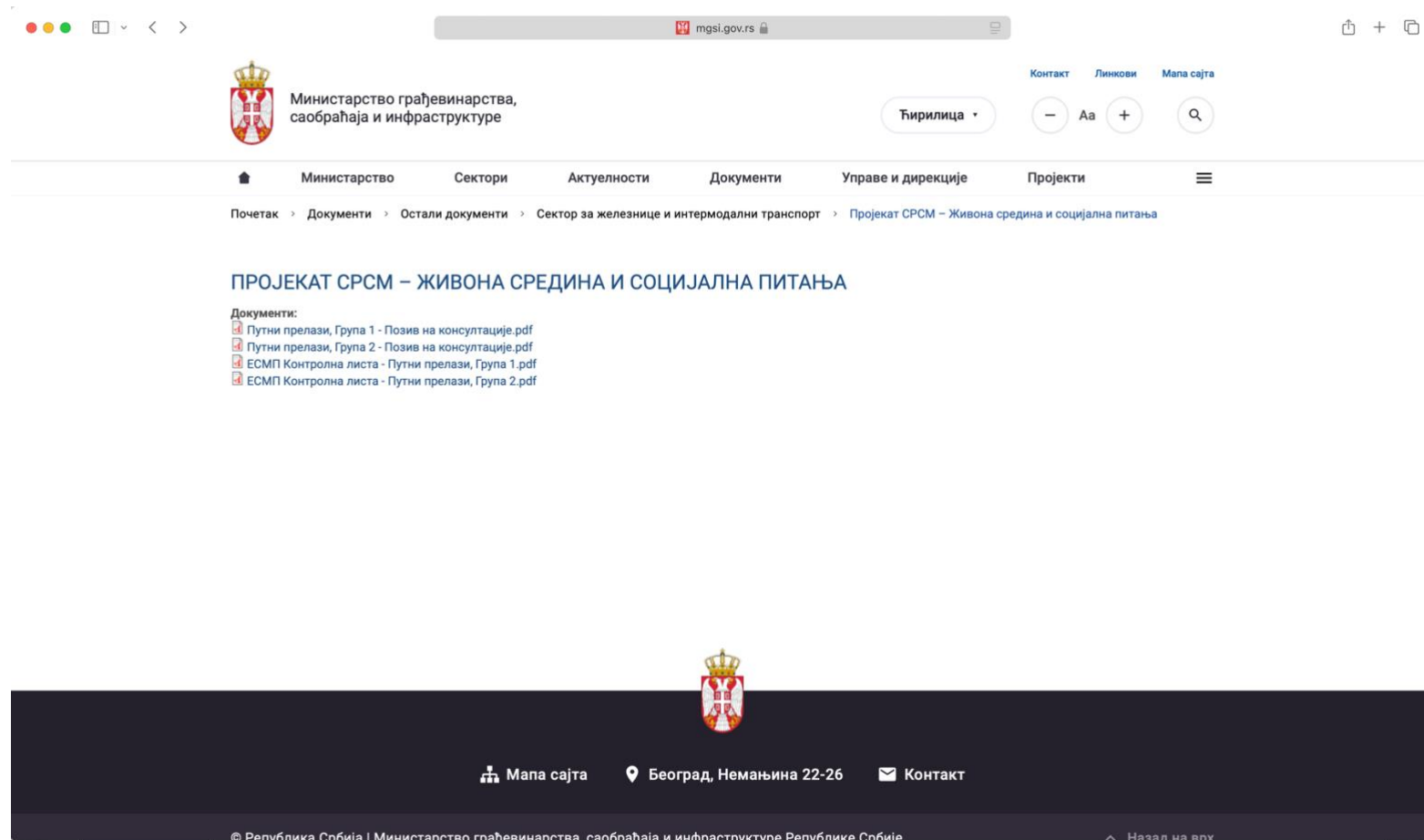
What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)	
						Implementation	Supervision
national legislation (as hazardous waste)							
All certificates (e.g. approval for execution of works) and accompanying document sheets are kept.	At the project site	Visual, site and document inspection	During installation	To ensure community and worker safety	In the Project budget	Contractor	Supervising engineer/appointed person
Sub-project stakeholder engagement	At the subproject site.	Regular, existing communication procedures, Announcements about works beginning and duration	Before and during the works	Ensure that stakeholders and citizens feedback is obtained, and improving safety and quality of the construction works	Within the Project costs/budget	Contractor	Employer/Supervising person
Project GRM is established and operational	At the project site	Visual, site inspection	Before, During works	Ensuring good cooperation with stakeholders and closing the feedback loop	In the Project budget	Contractor	- PIU social specialist
SEA/SH measures are respected	At the project site	Site inspection	During works	To ensure community safety	In the Project budget	Contractor	Employer/Supervising person
Workers GRM for contractor and sub-contractor workers is established and operational	At the project site	Visual, site inspection	Before, During works	Ensuring worker grievances are addressed and resolved	In the Project budget	Contractor	Supervising engineer/appointed person and PIU social specialist
AFTER CONSTRUCTION WORKS							

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What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)	
						Implementation	Supervision
All proofs of technical conformity are obtained before the use permit	In the Serbia Railway Infrastructure archive	By inspecting all documents required and works executed	Before issuing use permit	To ensure technical conformity prior to use	Included in project budget	Main designer, supervising engineer, competent authorities	supervising engineer, competent authorities
Waste management plan is written	In the Serbia Railway Infrastructure official gazette	By inspecting all documents required and works executed	Every 3-5 years	To ensure technical conformity	Included in project budget	IŽS	IŽS competent authorities

5.4 Minutes of public consultations

An invitation to participate in public consultations was published on September 12th, along with this ESMP Checklist, on the website of the Ministry of Construction, Transport and Infrastructure, and the printed copies were also available in the PIU office in Belgrade. The stakeholders and general public could submit their suggestions for 15 days, until September 26th. No comments were received.



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