Environmental and Social Assessment

Greenfield: **Category B Project -** GrCF2 W2 – Tram line Ilidza-Hrasnica

Non-Technical Summary (NTS)

August 2022

Content

Abbreviations and Acronyms

CESMP	Construction Environmental and Social Management Plan
CSOP	Construction Site Organization Plan
CWMP	Construction Waste Management Plan
EBRD	European Bank for Reconstruction and Development
ESAAR	Environmental and Social Assessment Report
E&S	Environmental and Social
ESA	Environmental and Social Assessment
ESP	Environmental and Social Policy
EIA	Environmental Impact Assessment
FMET	Federal Ministry of Environment and Tourism
GHG	Greenhouse Gas
GrCF2	Green Cities Framework 2
ILO	International Labour Organization
KEAP	Cantonal Environmental Action Plan
OHSMP	Occupational Health and Safety Management Plan
OESMP	Operation Environmental and Social Management Plan
PIU	Project Implementation Unit
PR	Performance Requirement
RP	Resettlement Plan
SC	Sarajevo Canton

1. Introduction

Sarajevo Canton (the Canton) has expressed an interest in obtaining support from the European Bank for Reconstruction and Development (the "EBRD" or the "Bank") for the construction of new tram tracks from Ilidza to Hrasnica.
This document is a Non-Technical Summary (NTS) providing summary information on the project's potential environmental and social impacts and management measures that will be undertaken by the Sarajevo Canton (hereafter the "Client")/Project implementation unit (hereafter "PIU") during implementation. The Project will be managed and progress of the Project, including environmental, social and health & safety performance, will be monitored by SC/PIU.

The Project is categorised "B" in accordance with the EBRD Environmental and Social Policy[1] (ESP) (2019).[2] Therefore, it is required to conduct an Environmental and Social (E&S) Assessment of the Project as well as Environmental and Social Audit and Assessment of the Sarajevo Canton including other stakeholders that might be involved or have responsibilities in terms of E&S issues relevant to the project.

In addition to this NTS, a Stakeholder Engagement Plan (SEP) has been developed in line with EBRD's PR 10 in order to ensure engagement of stakeholders during the project implementation and disclosure of all relevant information regarding project's risks and impacts. In order to ensure that the future project preparation activities are aligned with EBRD's Environmental and Social Policy (ESP 2019), an Environmental and Social Action Plan (ESAP) has been prepared. SEP and NTS are publicly available at Ministry of Transport of Sarajevo Canton website (https://ms.ks.gov.ba/) and the EBRD website (http://www.ebrd.com).

2. Background

2.1. Rationale of the Project

The "Project"[3] includes the following:

i. **Extension of double-track electrified tram line from Ilidza to Hrasnica by approx. 6.4 kilometres** (extension of the Sarajevo tram network, connecting the sites of city importance such as Ilidza Aquapark, International University of Sarajevo or Engine Factory Sarajevo as well as multiple residential neighbourhoods located in the Municipality of Ilidza, part of Sarajevo Canton);
ii. **Construction of new or reconstructed tram tracks in total length of 13.045 kilometres** (reconstruction of some existing and construction of a new tracks at the turning loop in Ilidza where the connection to the existing tram line will be done, construction of two new tracks to Hrasnica and construction of a new turning loop tracks in Hrasnica); and
iii. **Construction of new (or reconstructed) 20 tram platforms within 10 tram stops** (reconstruction of one current platform plus construction of two new platforms at the tram stop at the turning loop Ilidza, construction of 8 new two-platform tram stops along the way to Hrasnica and construction of a new one-platform tram stop at the turning loop Hrasnica).

[1] The ESP (2019) defines social as "those issues which pertain to project-affected people and their communities and workers and related to socioeconomic status, vulnerability, gender, gender identity, human rights, sexual orientation, cultural heritage, labour and working conditions, health and safety and participation in decision making.
[2] Available at http://www.ebrd.com/downloads/research/policies/esp-final.pdf
[3] ToR

As such, the Canton will be responsible for debt service and the Project implementation and construction, whereas the beneficiary transport company will be responsible for the operational functioning and maintenance once the Project construction is completed. Municipality of Ilidza is one of the beneficiaries of the project as well, since the tram line will be constructed on the territory of Municipality. They were included in the project as there were numerous activities that Municipality of Ilidza was in charge of such as expropriation, property-law relations, permits etc.

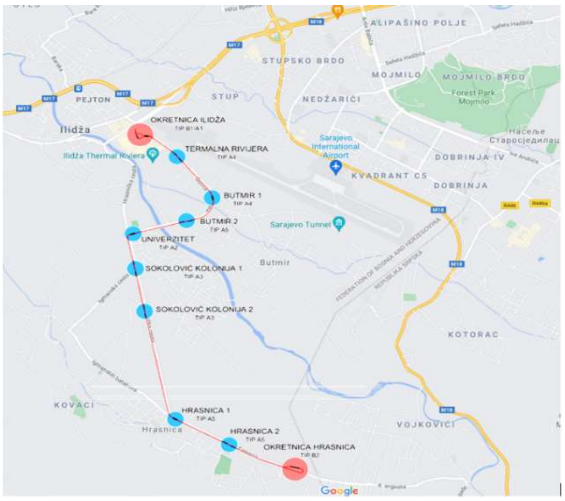

Figure 1 Route of the tram line extension from Ilidza to Hrasnica

Furthermore, the Project forms part of the Green Cities Framework 2 ("GrCF2"), which manifests a strategic and multi-project approach aiming to help identify and address environmental challenges in selected large cities in EBRD's countries of operation.[4] In particular, GrCF2 not only promotes sustainable cities through inclusive, resilient, well-governed and smart urban development, but it seeks to achieve significant environmental enhancements and promote Green transition quality within the relevant cities. Figure 1 represents the route of the tram line extension from Ilidza to Hrasnica (i.e. the project area).

The Project objectives

The tram line construction project aims to contribute to the implementation of planning orientations from the "Spatial Plan of Sarajevo Canton 2003-2023" and ensure efficient public transport for this part of urban area of Sarajevo Canton.[5] Therefore, the specific objectives of this Project encompass the following:

- Improvement of the level of service for existing and future public transport users on the given Ilidza-Hrasnica corridor by increasing the availability of public transport capacity and shortening travel time.
- Improvement of the quality of life in urban areas by reducing negative impacts on the natural and social environment.

According to the EBRD Environmental and Social Policy [6] (ESP) (2019)[7], this Project is categorised as "B", meaning that it requires Environmental and Social Assessment (the "ESA") that is proportionate to the project's nature, size and location as well as the characteristics of the potential impacts and risks.

2.2. Legal aspects and compliance with relevant environmental and social laws

The most important strategic documents concerning the project are:

- Transport Sector Strategy 2020-2024
- Municipal and Environmental Infrastructure Sector Strategy 2019-2024
- Spatial Plan of Sarajevo Canton 2003-2023

[4] ToR
[5] Ibid.
[6] The ESP (2019) defines social as "those issues which pertain to project-affected people and their communities and workers and related to socioeconomic status, vulnerability, gender, gender identity, human rights, sexual orientation, cultural heritage, labour and working conditions, health and safety and participation in decision making."
[7] Available at: https://www.ebrd.com/documents/comms-and-bis/environmental-and-social-policy.pdf

- Development Strategy of Sarajevo Canton 2021–2027
- Environmental Action Plan for Sarajevo Canton (KEAP) 2017-2022.

The most important EU directives concerning the project are:

- EIA Directive
- Water Framework Directive
- Waste Framework Directive
- Other: Standards for Environmental Management Systems (EMS), ISO 14001:2015 and ISO 14004 focus on environmental management systems, ISO45001 Occupational health and safety information, guidance and resources to support this standard.

Implementation of the Project requires compliance with a set of laws and bylaws in the area of environmental protection, water protection, air pollution, nature protection, solid waste management, land acquisition and disposition, etc. Generally, with regard to compliance of local regulations with EU regulations, in 2008, Bosnia and Herzegovina signed the Stabilisation and Association Agreement, committing to political, economic, trade and human rights reforms in the process of joining the European Union. Bosnia and Herzegovina has been a member state of the International Labour Organisation since 1993 and has ratified 83 ILO International Labour Standards.

Due to division of competences in Bosnia and Herzegovina, there are laws and regulations applicable and relevant to the Project rendered on different levels (e.g. state level, entity level, cantonal level, etc.). Environmental protection policy and social policy are under the joint responsibility of the FBiH and the Cantons. Communication and transport infrastructure is in the competence of cantons, whereby they exercise this competence independently, together with the FBiH, or in coordination with the federal authorities.

The Federal Ministry of Environment and Tourism is responsible for environmental management at entity level, while cantonal ministries are in charge of environment in 10 cantons of FBiH. The general Project implementation and supervision will be done through the Ministry of Transport of Sarajevo Canton.

One of the most important local laws applicable to the project is the new Law on Environmental Protection, rendered in 2021, which is mostly complied with the EU regulations.

2.3. Current environmental and social situation and considerations

Socio-economic status of the population – The total population of SC is 413,593 while Municipality of Ilidza, where the project is located, has a total population of 66,730 (95,2% urban and 4,8% rural population). The average density of the municipality is 397,4/km^2.[8] It is estimated that an approximate of more than 8,000 commuters will use the new track daily.[9] There are no significant minorities within the population that could disproportionally be affected by the Project. The Municipality of Ilidza is one of the nine municipalities within the Sarajevo Canton. The area of the Municipality of Ilidza is 143.4 km.^{2} Natural resources, which are significantly different from the Miljacka valley in which Sarajevo is located, determine its recognizable expressiveness. Local community Hrasnica is part of Municipality of Ilidza and

[8] www.Statitstika.ba

[9] Feasibility Study for the Ilidza-Hrasnica tramline construction project

it covers around 37 km^2 of total area of Municipality of Ilidza while local community Butmir which is also part of the Municipality of Ilidza covers around 5 km^2 of its total area.

Ground and Surface Water Quality – The Municipality of Ilidza has very favourable hydrographic characteristics. The urbanized area of Municipality of Ilidza stretches along the valleys of the rivers Zeljeznica, Tilava/Kasindolska River and Vecerica. Given that water resources are essential for the development of this area, but it is also the most sensitive area of the environment, it should be given special attention in the development of all types of plans and projects. For the area of the Municipality of Ilidza, wastewater is discharged mainly through the central sewerage system, and partly through sewerage of local importance, and even septic tanks. The water supply system operated by the public utility company "Vodovod i Kanalizacija d.o.o. Sarajevo" supplies drinking water to a population in Ilidza.

Climatic Factors and Climate Change – The climatic characteristics of the area of the Municipality of Ilidza are a consequence of the geographical position and other physical-geographical conditions. In general, two climatic types can be distinguished regarding relief features, namely: the continental type, which is represented at lower altitudes, and the mountain type, which is represented in the mountainous part of the municipality. The territory of the Municipality of Ilidza is characterized by a moderate continental climate with warm summers and snowy winters. The average temperature of the hottest month of July is 20,2 °C, but the average temperature in the coldest month of January is – 0,6 °C. The average annual temperature is 10 °C. Autumn and spring temperatures are equal with a lot of fog (aver. 88 days/year). The winds are very often, south direction[10].

Air Quality and Air Emissions – There are no continuous measurements of air quality in the Municipality of Ilidza. The unsatisfactory quality of air quality exists especially during the heating season when the smog phenomenon is pronounced. The most significant pressure on the air quality in the Municipality of Ilidza is due to the heating of housing, business and public spaces, and, due to emissions from traffic.

Noise – Noise exposure in Municipality of Ilidza varies from location to location. The most endangered are parts with heavy traffic of cars, motorcycles, buses and trams. Trams and motorcycles are the strongest sources of noise. Noise monitoring was done for SC in 2009 but it did not include the Municipality of Ilidza. The noise from the air traffic is at the limit of tolerance during the day, and occasional flights after 10 pm significantly disturb the night peace around the airport and residential areas of Ilidza.

Geomorphology and Geology – The geological features of the territory of Municipality of Ilidza are represented by deposits of different geological ages. The geological composition of the terrain, its stability, suitability for construction is conditioned by good hydrological characteristics, richness of mineral resources and other benefits of the Sarajevo field and its surroundings. According to the Main design, the stability of the terrain along the projected tram line is stable. Therefore, no special limitations for construction works are expected to be set for earthworks. From the geomorphological aspect, the area of the Municipality of Ilidza is divided into 2 areas: the plain area, which makes up 28% of the total territory of the municipality, and the hilly-mountainous area, which accounts for 72% of the total area. Morphologically, the route of the tram line is laid on flat terrain and there is no danger of instability and landslides.

Land Use - Of the total area of the Municipality of Ilidza, which amounts to 142.88 km^2, the largest share is forests, i.e., forest land, with a total of 54%, while the percentage share of agricultural land is 23.89%. It is followed by construction land with 21.07%. Agricultural land is classified into 8 soil quality categories.

[10] LEAP-Municipality of Ilidza

In the Municipality of Ilidza, the first agriculture zone occupies 21.5%, the second agriculture zone occupies 2.2% and the third agriculture zone occupies 0.8%.

Biological and Ecological Resources – There are no significant biological and ecological resources in the Project area since it is located in the urban part of Municipality of Ilidza near other urban facilities, assets (hotels, university, spa etc.), industry at the end of the lane and involves semi-modified or modified habitats.

Protected Areas – No protected areas were identified within the Project area. Therefore, the implementation of the Project is not expected to have a direct and/or significant impact on any nature protected areas, critical habitats or other ecosystems.

Cultural Heritage, Including Architectural and Archaeological Heritage – There are no elements of cultural heritage is the project area. The Project area does not have any identified archaeological heritage sites in its close surroundings.

2.4. History of the Project development and planning

The project of tram tracks extension from Ilidza to Hrasnica is first time mentioned and planned a few decades ago. The whole idea was recently actualised, and the project design is developed in 2019. All permits were obtained, and the Environmental and Social Assessment is last step towards the construction commencement.

3. Process

3.1. The process of Environmental and Social Assessment Report (ESAAR)

Deloitte and its consortium partners (the "Project team") have taken up the role of the Consultant for Environmental and Social Assessment for construction of railway Ilidza-Hrasnica. As such, the Project team was tasked to review available data and organise on-site visits in order to conduct Environmental and Social Audit and Assessment. The project activities resulted in Environmental and Social Audit and Assessment Report (ESAAR). Stakeholder Engagement Plan (SEP) has been developed in line with EBRD's PR 10 in order to ensure stakeholder engagement.

In order to ensure that the future project preparation activities are aligned with EBRD's Environmental and Social Policy (ESP 2019), an Environmental and Social Action Plan (ESAP) has been prepared. SEP and NTS are publicly available at Ministry of Transport of Sarajevo Canton and the EBRD website.

3.2. Project's current state of compliance with national regulatory requirements and relevant EU requirements

As identified in the introduction section, the project is classified as Category B. A brief review of gaps between EBRD's specific Performance Requirements (PRs) and FBiH/Sarajevo Canton applicable regulations is provided in the Table 1 below.

Performance requirement	Level of compliance of FBiH regulations with PR
PR 1: Assessment and Management of Environmental and Social Impacts and Issues	It is necessary to initiate the procedure on the preliminary environmental impact assessment, by submitting the request to the FMET, with mandatory elements as regulated in Article 69 of the *Law on Environmental Protection*. The procedure for the preliminary environmental impact assessment is ongoing. FMET is obliged to provide the copy of the request and enable free access to enclosed documents to the subjects as regulated in the applicable law. Subjects should submit their opinions on the request within 30 days counting from the receipt of the request. Specific differences with EBRD PR 1 requirements include: • no requirement for implementing an environmental and social management system, • no requirement for a specific social impact assessment.
PR 2: Labour and Working Conditions	The legal regulations in FBiH governing labour and working conditions (in particular, the *Labour Law* of FBiH) are compliant to a great extent with the requirements of PR 2. Specific issues/gaps include: • no legal obligation to establish a formal grievance mechanism for workplace concerns, • issue of non-employee workers (Contractors and sub-Contractors are required to submit proof of compliance with certain legal provisions such as payment of taxes, but not all the relevant requirements of PR 2).
PR 3: Resource Efficiency and Pollution Prevention and Control	The Law on Environmental Protection regulates the following: "*Everyone is entitled to a right to a healthy and environmentally sound environment, as a fundamental human right and it is a general duty to protect and improve the environment for the benefit of present and future generations.*" Local legislation contains provisions on the safe management of wastes, including hazardous waste management. All these requirements become legally binding for a company through the environmental permit and relevant water acts. Regarding resource efficiency, waste processing for re-use and waste recycling are one of the aims of the *Law on Waste Management.* One of the general principles is stimulation of *reuse*

Performance requirement	Level of compliance of FBiH regulations with PR
	of waste, recycling of waste, replacement of raw materials with waste in order to use materials or energy from waste. Specific issues/gaps include: • no specific requirement to avoid/minimize project - related GHGs.
PR 4: Health and Safety	No specific gaps related to the PR4 have been identified as the above listed regulations are broadly compliant with PR 4 requirements.
PR 5: Land Acquisition, Involuntary Resettlement and Economic Displacement	The provisions of the FBiH *Expropriation Law* are to a certain extent compliant with EBRD PR 5 requirements. Specific issues/gaps include: • no requirement for development of resettlement plans, • informal occupants or users not legally recognized, • no requirement for specific grievance mechanism for Project affected people.
PR 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	The Client has initiated Environmental impact assessment procedure in accordance with the local legislation and the process is still ongoing. It should be noted that BiH is a party of the Convention on Biological Diversity, so the conservation of biodiversity is regulated in the *Law on Nature Protection.* Specific issues/gaps include: • no legal requirement for monitoring the supply chain.
PR 7: Indigenous Peoples	Not applicable.
PR 8: Cultural Heritage	The most relevant legal regulation in SC governing cultural heritage is the *Law on Protection of Cultural Heritage*. *Law on Environmental Protection* contains provisions related to the cultural heritage and recognizes the *authority responsible for the protection of cultural, historical and natural heritage* as a stakeholder in the process of environmental impact assessment. An assessment of project impacts on cultural heritage is undertaken as part of the environmental assessment (Article 64). Specific issues/gaps include: • no requirement for development of a specific chance finds procedure.
PR 9: Financial Intermediaries	Not applicable.
PR 10: Information Disclosure and Stakeholder Engagement	The legal regulations in FBiH guarantee access to information. Information disclosure and stakeholder engagement are also covered by the *Law on Free Access to Information in FBiH and Law on Environmental Protection of FBiH.* Specific issues/gaps include: • no requirement for development of Stakeholder Engagement Plan; • processes are more focused on information disclosure rather than engaging and consulting stakeholders in the process of issuance of an environmental permit.

Table 1 Review of gaps between EBRD's specific Performance Requirements (PRs) and FBiH/Sarajevo Canton applicable regulations

4. Summary of Environmental Benefits, Potential Adverse Impacts, Mitigation and Management Measures

Topic	Benefit/Impact	Mitigation measures	Monitoring
Air quality	**Construction phase** Dust emissions, which occur during manoeuvring of vehicles, excavations etc., and exhaust gases are the main pollutants in this case. It is expected that several meters inside the working zone will be exposed to the impact, but if suggested measures are adopted it is not expected that the impact will be significant. The air quality throughout the area is impaired by the existing emissions from the road traffic. * **Operational/maintenance phase** • Operation of tram will have positive impact on the air quality on a local level, taking into consideration lower emission values. Emission of sulphur dioxide (SO_2) will be decreased, and emission of nitrogen oxides (NOx) and particles (PM) will be significantly lower. The new tram line will show an increased operational efficiency entailing a reduced demand of fuel and reduced exhaust gases. Impacts on the air quality in this phase will be mostly caused by work of machinery used for maintenance.	**Construction phase** • Implementation of CESMP which includes measures for air quality (air management sub-plan), • Machines and vehicles to be used in construction activities must have use/operation permits, • Machines and vehicles must have installed filters to reduce soot emission, • Vehicles need to be regularly maintained, • The equipment and machinery need to be shut down when not in use, • High quality fossil fuels (with low percentage of sulphur and lead) need to be used as motor fuel for machinery and equipment, • Sand and gravel materials need to be transported in covered trucks. Proper maintenance of vehicles and machinery used • De-dusting with water spraying.	**Construction phase** • Monitoring of implementation of CESMP • During construction at construction sites through regular inspection and observation by Construction Supervisor.
Associated infrastructure	**Construction phase**	**Construction phase** • Good construction practices	**Construction phase**

* The federal AQ monitoring network is operated by the Federal Hydro-Met institute and real-time data can be found at http://fhmzbih.gov.ba/

Topic	Benefit/Impact	Mitigation measures	Monitoring
	• During the construction of the tram tracks traffic may be disturbed. • The construction of the tram tracks will result in better public transport connectivity and less air pollution. The understanding is that overall, this project will result in positive environmental effects.		• Monitoring of implementation of CESMP
Biodiversity and nature conservation	**Construction phase** • The appropriate green belt, that has been left in between the lanes, will be temporary destroyed.	**Construction phase** • Implementation of CESMP **Operational/maintenance phase** • In case that there will be additional space between the tram rails left after construction, it will have to be recultivated • Implementation of the landscaping project	**Construction phase** • Monitoring of implementation of CESMP • During construction at construction sites through regular inspection and observation by Construction Supervisor **Operational/maintenance phase** • Monitoring of implementation of OESMP and landscaping project
Landscape and visual impacts	**Construction phase** • Temporary physical disturbance of the site **Operational/maintenance phase** • The tram line will be constructed in the semi-urbanized and urbanized part of the Municipality of Ilidza. Tram stops will be lightened in accordance with traffic regulations and having in mind the distance from receptors, light impact is not expected. Permanent impact in construction phase is identified for this	**Construction phase** • Implementation of CESMP **Operational/maintenance phase** • The land should be recultivated, as soon as works are completed	**Construction phase** • Monitoring of implementation of CESMP **Operational/maintenance phase** • Monitoring of implementation of OESMP

Topic	Benefit/Impact	Mitigation measures	Monitoring
	• Permanent impact due to partial alteration of landscape and visual aspects		
Raw material sourcing and transportation, including borrow pits	**Construction phase** The borrow pits may be used, which will be selected by the construction contractor.	**Construction phase** • The construction contractor to only use those borrow pits which operate in accordance with national regulatory and environmental requirements • Ensure that materials are transported in covered vehicles to reduce impacts on environment	**Construction phase** • Monitoring of implementation of CESMP and CWMP • During construction at construction sites through regular inspection and observation by Construction Supervisor
Road safety	**Construction phase** • Traffic congestion, particularly during the delivery of construction materials to site and the collection of waste from construction activities **Operational/maintenance phase** • The higher tram speeds compared to bus lines are expected to contribute to the goal of changes in modal split and travel time savings. • Road safety benefits	**Construction phase** • Development and implementation of traffic management plan, which should include the following: - Loading and offloading procedures for transport vehicles - Avoid transportation of materials, equipment and construction waste as much as possible during periods of heightened traffic congestion (07.00-09.00 h and 16.30-17.30 h) - Training of drivers and operators - Safety signage and protective fences in the area of construction works - Equip vehicles with safety equipment (e.g. safety belts, safety lights, reversing alerts and first aid kits). **Operational/maintenance phase** • Develop operational procedures in case of technical malfunction, road accidents, maintenance work, etc. in order to	**Construction phase** • Monitoring of implementation of Construction Site Organisation Plan (CSOP) **Operational/maintenance phase** • Monitoring of implementation of OESMP

Topic	Benefit/Impact	Mitigation measures	Monitoring
		minimise impact on traffic congestion and road health and safety.	
Noise and vibration	**Construction phase** • Increased levels of noise and vibration are expected during construction **Operational/maintenance phase** • Reduced number of passenger cars compared to a scenario without a project is expected to have a positive impact on noise reduction	**Construction phase** • Restriction of works to daytime only (from 06:00 to 17:00), • In case of noise complaints by local residents, simultaneous use of machines that generate noise over 70 dB needs to be limited, • Machines and vehicles to be used in construction activities must have use/operation permits, • Scheduling activities on site to limit increased noise activities to day-time	**Construction phase** • Monitoring of implementation of Construction Site Organisation Plan (CSOP)
Waste management	**Construction phase** • Construction waste will be generated (inert earth material and soil) during construction activities **Operational/maintenance phase** • During maintenance and operational phase, waste oils and lubricants and other waste will also be generated	**Construction phase** • Development and implementation of CWMP to ensure appropriate management and handling of construction waste and earth waste excavated during construction **Operational/maintenance phase** • Development and implementation of WMP	**Construction phase** • Monitoring of implementation of CWMP • Visual inspection, disposal records or receipts from authorised third parties **Operational/maintenance phase** • Monitoring of implementation of WMP during operational phase
Water resources	**Construction phase** • Potential pollution of watercourses and groundwater due to accidental situations	**Construction phase** • Implement measures from Preliminary Water Consent • Oil separators for the project to be selected and installed in line with standard EN 858-1 and 858-2 **Operational/maintenance phase** • Obtain Water Permit	**Construction phase** • Monitoring of implementation of Construction Site Organisation Plan (CSOP) and measures from the Preliminary Water consent **Operational/maintenance phase** • Monitoring of implementation of

Topic	Benefit/Impact	Mitigation measures	Monitoring
		• Undertake regular cleaning and maintenance of oil separators by engaging an authorised third party.	OESMP and measures from the Water Permit.

5. Summary of Social Benefits, Potential Adverse Impacts, Mitigation and Management Measures

Topic	Benefits/Impacts	Mitigation measures	Monitoring
Occupational health and safety (OHS)	**Construction phase** • Main OHS issues during construction phase will be related to working with hazardous material, management of electrical hazards, vehicles and traffic management etc.	**Construction phase** • In accordance with Decree on Construction Site, Mandatory Documentation on the Site and Participants in Construction[11], the Construction Site Organization Plan (CSOP) to be developed and implemented, including the Occupational Health and Safety Management Plan (OHSMP) • Appropriate personal protective equipment should be issued to potential impacted employees. • Clearly label the containers and packages of the hazardous materials. • A register of hazardous materials used should be prepared and posted at the entrance of the storage of hazardous materials.	**Construction phase** • Monitoring of implementation of Construction Site Organisation Plan (CSOP) and OHSMP.
Community impacts	**Construction phase** • Small-scale community H&S risk due to construction works, which could affect community cohesion and wellbeing • Small risk of the local community accessing fenced areas where construction activities are taking place with the potential for incidents and accidents	**Construction phase** • Development and implementation of Construction Site Organization Plan (CSOP) **Operational/maintenance phase** • Develop and implement the Operation Environmental and Social Management Plan (OESMP)	**Construction phase** • Monitoring of implementation of Construction Site Organisation Plan (CSOP) **Operational/maintenance phase** • Monitoring of implementation of OESMP

[11] Official Gazette of FBiH", No. 48/09, 75/09, 93/12

Topic	Benefits/Impacts	Mitigation measures	Monitoring
	• Risk of incidents and accidents involving pedestrians, other vehicles, potential safety impacts. • Potential for damage to local roads as a result of increased construction traffic **Operational/maintenance phase** • Possible negative impacts of the new tram line during operation on the local community in general terms including: traffic safety, impacts on general health and safety, GBVH issues • Certain maintenance works, such as tram malfunction repairs are likely to slow down traffic and cause traffic congestion. • Improvements in transportation connection of local communities to other areas the City, easier accessibility to workplaces, healthcare, educational facilites, etc.	• OESMP to include the following sub-plans: Waste Management Plan, Noise Management Plan, Spill Response Plan, Emergency Preparedness and Response Plan and safety procedure related to unexploded ordnance), corporate Traffic Management Plan, Health and Safety Management Plan and Hazardous Management Plan (HMP to include clearly marked areas of all hazardous items held and used)	
Land acquisition and resettlement	**Construction phase** • Land acquisition mostly completed. • Limited land acquisition for 17 plots to still undergo this process.	**Construction phase** • Mitigation measures shall be applied in line with those prescribed in the Resettlement Plan (RP) for this project, including compensation for the land and assets	**Construction phase** • Monthly reports on the progress achieved with the implementation of the RP • Final report upon completion of all activities
Impacts on businesses and employment	**Construction phase** • During construction and associated pre-construction, the Project shall have the impact of economic displacement (loss of land, assets or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood). This impact is expected to be localized to the Ilidža turn loop, where the following	**Construction phase** • Mitigation measures shall be applied in line with those prescribed in the Resettlement Plan (RP) including compensation for: loss of business and loss of business income, loss of salaries, temporary losses of business income during construction works (businesses which are not relocating)	**Construction phase** • Monthly reports on the progress achieved with the implementation of the RP • Final report upon completion of all activities

Topic	Benefits/Impacts	Mitigation measures	Monitoring
	businesses have been identified: Hairdresser salon, newsstands and parking lot. This shall be manifested in terms of temporary or permanent loss of net income for the affected business. • Loss of livelihoods refereeing to the full range of means that individuals, families and communities utilise to make a living, such as wages from employment. This impact has been identified at both turn loops Ilidža and Hrasnica and have an impact on both formal and informal businesses and consequentially employees. **Operational/maintenance phase** • Better commuting connection for local business and their employees allowing for long term increase in productivity and consequentially income, as well as, increasing workforce availability for local businesses due to more efficient and shorter commuting. • Creation of jobs and employment opportunities related to the new tram line such as: conductors, maintenance and operation workers, etc.		
Impacts to existing infrastructure and public services	**Construction phase** • Temporary disruptions of roads and traffic congestions	**Construction phase** • Regularly inform local businesses and commuters in case of a road blockage and enable alternative routes. • Local emergency services (police, ambulance, firefighters) to be timely notified about traffic restrictions.	**Construction phase** • Monitoring of implementation of Construction Site Organisation Plan (CSOP) and Traffic Management Plan
Cultural heritage	**Construction phase** • No direct impacts on known cultural heritage are expected	**Construction phase** • In the case of findings of any unknown cultural heritage, the contractor will	**Construction phase** • Monitoring of the site for any unknown

Topic	Benefits/Impacts	Mitigation measures	Monitoring
		apply measures from the Chance Find Procedure (in compliance with PR 8)	cultural heritage during earth works • Monitoring of implementation of Chance Find Procedures in compliance with PR 8

6. Residual impacts

Residual impacts will be long-term positive impacts on:

- improving the air quality of the SC and Ilidza,
- reducing levels of noise,
- improving the public transport and reducing the traffic jams,
- public transport to suburban and rural areas.

There will also be some negative E&S residual impacts, such as:

- land take,
- conversion of land use,
- waste,
- visual impact.

7. Communications

Sarajevo Canton/PIU/Ministry of Transport intends to provide all relevant Project information to the public in Bosnian/Croatian/Serbian language and English language (where appropriate). The following documents have been published on the Ministry of Transport of Sarajevo Canton website (https://ms.ks.gov.ba) and the EBRD website (www.ebrd.com):

- Non-Technical Summary,
- Stakeholder Engagement Plan (SEP), including the grievance mechanism.

Sarajevo Canton/PIU/Ministry of Transport will make available hard copies of these documents.
In addition, individual consultation meetings for specific issues may be organized at the initiative of the Sarajevo Canton/PIU/Ministry of Transport or by any identified stakeholder groups/individuals. Contact information for enquiries and grievances:

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Process for addressing any issues arising (please refer to Stakeholder Engagement Plan).