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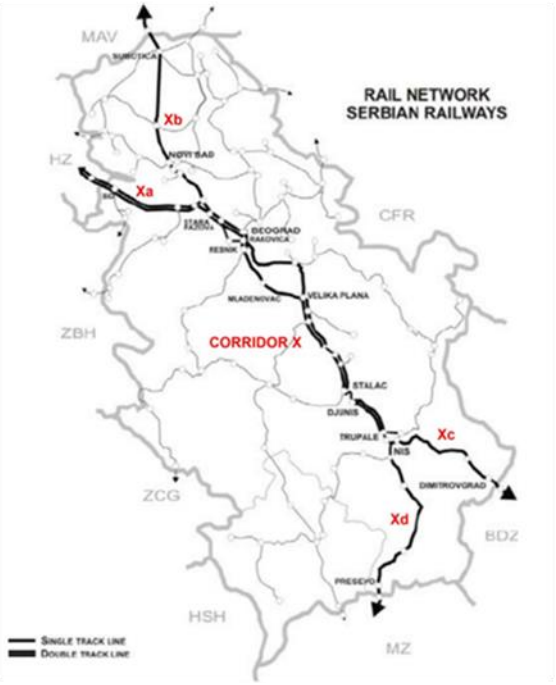

NON-TECHNICAL SUMMARY (NTS)

Gap Analysis for Corridor X Railway – Belgrade-Nis: Stalac-Djunis Section, Republic of Serbia

12 July 2022

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List of Abbreviations

AA	Appropriate Assessment
CESMP	Construction Environmental and Social Management Plan
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EIB	European Investment Bank
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EU	European Union
GBVH	Gender Based Violence and Harassment
IBA	Important Bird Areas
IPA	Important Plant Areas
OESMP	Operational Environmental and Social Management Plan
OHS	Occupational Health and Safety
PBA	Prime Butterfly Areas
PIU	Project Implementation Unit
RAP	Resettlement Action Plan
RoS	Republic of Serbia
SEP	Stakeholder Engagement Plan
SRI	Serbian Railway Infrastructure

1 Introduction

Project background. The European Bank for Reconstruction and Development (EBRD) is considering providing finance to the Republic of Serbia (RoS) for the benefit of Serbian Railways Infrastructure (SRI). The loan will be used to finance the rehabilitation and upgrade of the approx. 243 km-long railway line connecting Belgrade to Nis ("Corridor X") with the aim to increase the speed while enhancing quality of passenger and freight rail services. The entire project will involve a combination of upgrading the design speed to up to 160/180/200 km/h (depending on the section) and doubling of the single tracks. The project is expected to be co-financed by the European Investment Bank (EIB) and the European Union (EU) through the Western Balkans Investment Framework (WBIF) or other EU mechanism.

The loan will be tranched based on a schedule of subsection rehabilitation. The first tranche will be committed to finance the works of the **Stalac-Djunis subsection, which is the subject of this Non-technical Summary**[1]. The existing railway line from Stalac to Djunis is a single-track subsection between Belgrade and Nis. Construction of a new double-track railway line 17.7 km long for speeds up to 160 km/h is planned. The alignment will be significantly changed. Stalac and Djunis railway stations will be fully reconstructed. A detailed description of the subsection is given in Chapter 2 below.

For this subsection, a **Spatial Plan** of the Special Purpose Area of the Infrastructure Corridor of the Railway Line Stalac-Djunis and accompanying Strategic Environmental Assessment Report were adopted in 2017 by the Government of the RoS. A **Preliminary Design** has been developed, and **Location Conditions** with opinions of relevant authorities obtained.

Project category. As the entire project involves greenfield development and is part of an extensive wider linear infrastructure development on Corridor X, the EBRD has classified it as a **Category A project**[2].

Tranche 1 preparation background. An international Environmental and Social Impact Assessment (ESIA) was developed in 2016, followed by a national Environmental Impact Assessment (EIA) in 2018. An independent gap analysis review of these was completed in 2022 against EBRD, EIB and EU standards and best practice. The review revealed that additional collection of information/data was needed in order to define additional potential impacts and required mitigation actions. Therefore, a Supplementary Study was developed along with an Environmental and Social Management Plan (ESMP) and an Environmental and Social Action Plan (ESAP).

Project Disclosure Package. Under Lenders' requirements, the following will comprise the disclosure package for the **Stalac-Djunis subsection**:

[1] There is a separate Non-technical Summary for the entire Belgrade-Nis Corridor developed within the Project *Corridor Level Environmental and Social Assessment for the Belgrade-Nis High Speed Railway Corridor*, and is part of disclosure package as described under the heading "Project Disclosure Package".

[2] This means that a comprehensive ESIA and review of associated documents must be carried out, followed by their public disclosure for a minimum period of 120 days.

1. ESIA Study (2016)
2. National EIA Study (2018)
3. Supplementary Study and its annex Environmental and Social Management Plan (2022)
4. Environmental and Social Action Plan (2022)
5. Resettlement Action Plan for LOT 2 (2022)
6. This Non-technical Summary for the Stalac-Djunis subsection (2022)
7. Corridor-level Stakeholder Engagement Plan whose annex refers specifically to the Stalac-Djunis subsection (2022).

The following will comprise the disclosure package for the **entire Belgrade-Nis corridor**:

1. Corridor-level E&S Assessment Report and its annex Environmental and Social Management Plan (2022)
2. Corridor E&S Scoping Report (2022)
3. Corridor Resettlement Policy Framework (2022)
4. Corridor Environmental and Social Action Plan (2022)
5. Corridor Stakeholder Engagement Plan (2022)
6. Corridor Non-technical Summary (2022)

This document is a Non-technical Summary which provides a summary of the Stalac-Djunis subsection in non-technical language covering the Project background and description, the baseline conditions in the project area, the environmental and social impacts with mitigation measures needed to structure the project to meet the EBRD Environmental and Social Policy (2019), and the disclosure and communication requirements of the project.

2 Description of the Project

2.1 History of Project Development and Planning

The key milestones in development of the Stalac-Djunis subsection are listed below.

Table 1: Project milestones

Year	Activity
2007	Development of Preliminary Feasibility Study (PFS) and General Design (GD) for Reconstruction and Modernisation of the Railway Line Belgrade-Nis
2015	Scoping of national EIA Study by Ministry of Environmental Protection for Stalac-Djunis
2016	Development of international ESIA Study for Stalac-Djunis
2017	Adoption of the 'Spatial Plan of the Special Purpose Area of the Infrastructure Corridor of the Stalac-Djunis Railway Section'
2017	Issuing of initial Location Conditions for Stalac-Djunis
2018	Development of Preliminary Design for Stalac-Djunis
2018	Development and approval of national EIA Study by Ministry of Environmental Protection
2021	Development of Conceptual Design (based on the Preliminary Design from 2018) for Stalac-Djunis
2021	Issuing of renewed Location Conditions (LCs) for Stalac-Djunis
2022	Development of Pre-Feasibility Study for the entire Corridor, including a Stakeholder Engagement Plan, Scoping Report and Resettlement Framework developed
2022	Signing of contract for design and construction of Tunnel no. 4 (LOT 1 of Stalac-Djunis subsection)
2022	Development of Resettlement Action Plan for Stalac-Djunis (see chapter 5.15)
2022	Development of Supplementary Study, Environmental and Social Management Plan, and Environmental and Social Action Plan for Stalac-Djunis

2.2 Selection of Contractors and Planned Start of Construction

The construction of the Stalac-Djunis subsection will be implemented by two separate "design and build" contracts, one for LOT 1 (tunnelling works for Tunnel 4) and one for LOT 2 (all other civil works and track superstructure for the entire subsection).

LOT 1: After conducting a public procurement procedure in 2021, SRI signed in February 2022 a contract with a consortium led by China Railway 21. Bureau Group - Belgrade Branch. The tunnel is 3.3 km long, and the value of the contract is EUR 40.8 million. The contract also covers the construction of three evacuation tunnels and two access roads.

The deadline for the design and construction of the tunnel is around 2.5 years. The contractor was officially granted access to the site on 19 April 2022. It is expected that works on the construction site will start by mid-2022.

LOT 2: LOT 2 will cover works on the reconstruction and modernisation of the existing railway, the construction of the second track on this subsection, and four additional tunnels through the gorge (Tunnels no. 1, 2, 3 and 5). The tender is expected to be published mid-2022. Preparation of tender documents is ongoing.

2.3 Permits and Authorisations

The national EIA Study for the Stalac-Djunis subsection was approved by the Ministry of Environmental Protection in 2018 and this initial approval was valid for 2 years. The approval was extended by the Ministry in April 2022, which confirmed that it is not necessary to update the EIA Study as no significant changes have occurred and it is in line with the renewed Location Conditions (2021).

After the Contractor completes the so-called "Design for Construction Permit", SRI will submit a request for a Construction Permit. Since the subsection will be built by means of two separate "design and build" contracts (for two lots), two construction permits will be obtained.

An overview of national legal requirements relevant to the project is provided in Chapter 3.

2.4 Project Implementation Arrangements

The Ministry of the Finance of RoS will be the Borrower, while SRI will be the Implementing Entity for the entire project. A Project Implementation Unit (PIU) will be responsible for project management.

For the purpose of performing re(construction) activities on the Stalac-Djunis railway alignment, SRI will select a contractor who will perform all works in accordance with the requirements and provisions defined in the Project documentation developed as a part of the disclosure package. Note: The contractor for Lot 1 has already been selected, as mentioned above under section 2.2.

The Supervision Engineer will be required to monitor the activities carried out by the Contractor; including the review of the Project design, the development of relevant construction management plans, the organisation of the construction site, as well as the application of appropriate requirements and mitigation measures. Supervision Engineer will include the findings and conclusions in the monthly reports for the PIU.

2.5 Planned Investments

The Stalac-Djunis subsection involves the following components:

- Construction of a new double-track railway line 17.7 km long for speeds up to 160 km/h,
- Upgrade of the railway stations in Stalac and Djunis,
- Construction of an overhead contact line, signalling safety and telecommunications installations,

- Decommissioning of the existing single-track railway on the part of the section where the replacement by the double-track railway is planned.

The length of the railway line through tunnels is 6.9 km (which is about 40% of the proposed line). The new railway design also requires: (i) realignment of 6 existing roads; (ii) construction of 8 new access roads (two of which with underpasses); and (iii) reconstruction of 1 existing access road.

A map with existing and planned railway with ancillary structures is provided in Figure 11.

The new railway has been proposed with the following features that improve its safety:

- The subsection design complies with Technical Specifications for Interoperability (TSIs) which incorporate a number of important safety and accessibility features; as well as European technical parameters (as defined in the European Agreement on Main International Railway Lines and in the European Agreement of Important International Combined Transport Lines and Related Installations);
- The entire subsection will be fenced, which reduces the risk of trespassing and hence greatly reduces the risk of accidents to trespassers; and
- There will be no level crossings, all crossings are grade separated (underpasses or overpasses) and hence the risk of level crossing accidents has been eliminated.

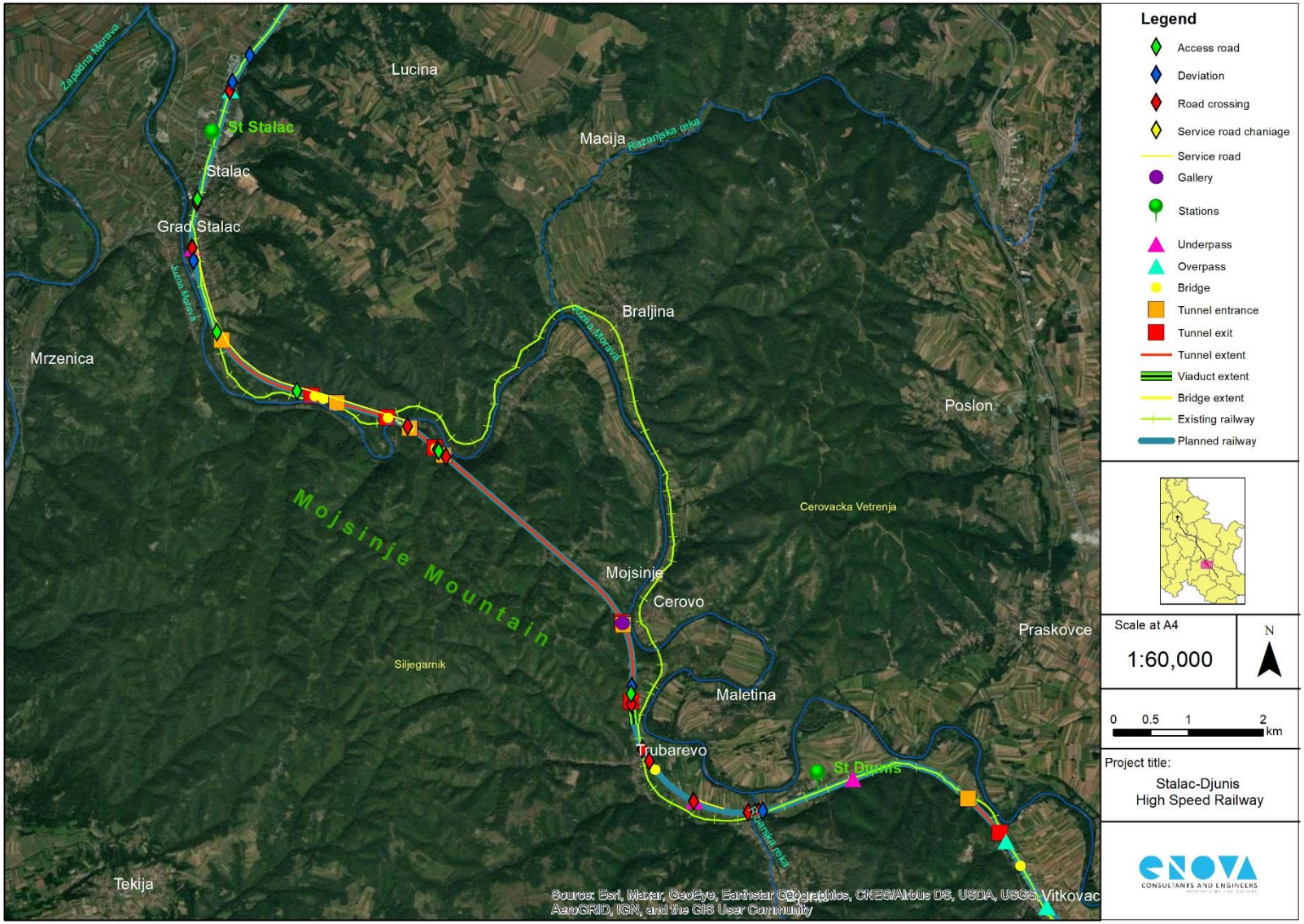

Figure 1: Existing and planned railway from Stalac to Djunis with ancillary structures

3 Legal Aspects and Compliance with Relevant Laws and Policies

National Requirements. The implementation of the entire project requires compliance with a set of national laws and bylaws in the areas of railway safety, environmental protection, water protection, air pollution, nature protection, solid waste management, etc. With regard to **railway design and management**, the key relevant laws are the *Law on Planning and Construction*, the *Law on Railways*, the *Law on Safety in Railway Operations* and the *Law on Interoperability of the Railway System*. Since Corridor X is a project of particular importance to RoS, **procedural matters** (such as preparation of documentation and obtaining permits) are regulated by the *Law on Special Procedures for the Implementation of Construction and Reconstruction Projects of Linear Infrastructure of Particular Importance for Serbia*.

With regard to **permitting requirements**, the Stalac-Djunis subsection has already obtained Location Conditions (LC) as required by the *Law on Planning and Construction*. The next step is developing a Design for Construction Permit (this will be the responsibility of the Contractor), which is necessary to apply for the Construction Permit. After construction, a Use Permit will be issued.

The key laws related to the **national EIA procedure** are the *Law on Environmental Protection* and the *Law on EIA*. An EIA has been developed for the Stalac-Djunis subsection in line with this legislation, and the EIA Study approved.

Environmental protection is ensured through a set of laws which define the standards for quality of air, water, noise and soil, waste management and other environmental guidelines. In addition, a range of legislation covers other issues such as **labour**, **health and safety**, protection of **cultural heritage** and **land acquisition**.

EBRD requirements. EBRD's Environmental and Social Policy 2019 (ESP) details the commitments of the Bank to promote environmentally sound and sustainable development. The Bank has defined specific Performance Requirements (PRs) for key areas of E&S issues and impacts as listed below:

PR 1: Assessment and Management of E&S Risks and Impacts
PR 2: Labour and Working Conditions
PR 3: Resource Efficiency and Pollution Prevention and Control
PR 4: Health, Safety and Security
PR 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
PR 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
PR 7: Indigenous Peoples (not applicable to this Project)
PR 8: Cultural Heritage
PR 9: Financial Intermediaries (not applicable to this Project)
PR 10: Information Disclosure and Stakeholder Engagement

EIB standards. EIB requires that all the projects it is financing are acceptable in E&S terms by applying appropriate safeguards to all its operations. The EIB Environmental and Social Standards (2022) provides an operational translation of those standards grouped across 11 thematic areas, as follows:

Standard 1: Environmental and Social Impacts and Risks
Standard 2: Stakeholder Engagement
Standard 3: Resource Efficiency and Pollution Prevention
Standard 4: Biodiversity and Ecosystems
Standard 5: Climate Change
Standard 6: Involuntary Resettlement
Standard 7: Vulnerable Groups, Indigenous People and Gender (Indigenous People – not applicable to this project)
Standard 8: Labour Rights
Standard 9: Health, Safety and Security
Standard 10: Cultural Heritage

Standard 11: Intermediated Finance (not applicable to this project).

EU requirements. EU requirements applicable to the project include[3]:

- Directive on establishing a single European railway area
- EIA Directive on the assessment of the effects of certain plans and programmes on the environment
- Directive relating to the assessment and management of environmental noise
- Waste Framework Directive
- Water Framework Directive
- Flood Directive
- European Climate Law
- Birds Directive
- Habitats Directive
- Directive on railway safety
- Directive on the interoperability of the rail system within the EU
- Regulation on the EU Agency for Railways
- OHS Directive

The implementation of this Project will therefore enable Serbia to meet national requirements, as well as EBRD, EIB and EU requirements. The Environmental and Social Action Plan (ESAP) which has been approved by SRI and the Lenders includes a set of comprehensive mitigation measures to bring the (re)construction of the Stalac-Djunis subsection into compliance with all these requirements.

[3] The list is not exhaustive and includes only the most important EU requirements applicable to the Project.

4 Summary of Environmental and Social Baseline

This section provides a summary of the baseline provided in the 2016 ESIA as well as information collected during the E&S due diligence process conducted throughout March to June 2022 for needs of developing the Supplementary Study. More detailed information is provided in the Supplementary Study.

4.1 Biodiversity

Habitats in the area of Stalać and Đunis settlements have been affected by rural residential developments and as such have a low ecological value, whole Mojsinje Mts. support woodland habitats of higher value. No habitat types listed in the Habitats Directive Annex I have been identified in the Projects area of potential impact. Invertebrate surveys focused only on invertebrate species of conservation concern. A total of 33 invertebrate species were recorded, six of which are of conservation concern. The predominant fish species in Juzna Morava River are common fish in Serbia. Fauna of the Project area was additionally found to have 46 bird species, eight species of amphibians and 11 of reptiles majority of which are widespread in Serbia and/or Europe. The most represented group within the mammal fauna in the study area consists of species that are residents of specific sub-group of European forests and species of relatively wide distribution, which are primarily related to forest habitats. Literature and field data was further assessed in Critical Habitat Assessment (CHA). The identification and assessment of critical habitats is required to manage risks and avoid, mitigate, and offset impacts to areas with high biodiversity value. The CHA has shown that 41 biodiversity receptors meet the criteria, namely, 23 for priority biodiversity feature and 21 for critical habitat. The Project must not result in net loss of priority biodiversity features and must ensure net gain of critical habitats.

4.2 Protected Areas

The proposed railway route is partly located within a part of the ecological network of Serbia - Mojsinje Mountains and Stalac Gorge of the Juzna Morava River. In addition, the Juzna Morava River is designated as the ecological corridor of international importance and a proposed Site of Community Importance (pSCI). The nearest Important Bird Areas (IBA) site is located 1,150 m northwest from the Project. There are no Important Plant Areas (IPA), Prime Butterfly Areas (PBA), Ramsar[4] and Emerald[5] sites in the 15km buffer zone around the Project. Once Serbia becomes an EU member state, the areas registered as being part of the ecological network will become part of the Natura 2000 ecological network of the EU, which would also apply to the Mojsinje Mountain and Stalac Gorge of the South Morava River. All three areas were therefore considered and referred to as potential Natura 2000 sites. Based on this approach, an Appropriate Assessment (AA) was conducted (both AA Stage 1 and AA Stage 2).

4.3 Water

Stalac is connected to the Rasina-Pomoravlje regional water supply system that receives water through the artificial accumulation of "Celije". In addition, there are two water springs Seliste (above Stalac settlement, at ca. 213 m asl) and Toplik (near the occasional stream Toplik, at ca. 257 m asl), which are important for the water supply of the Cicevac municipality. In Djunis as well as other settlements in the Project area, water is supplied either through smaller rural systems that are managed by the local communities. Individual wells are the responsibility of their owners. The settlements Braljina, Mojsinje and Trubarevo do not have organised water supply.

There are no precise data on the abundance and territorial distribution of groundwater sources in the Project area. The investigation works performed in 2015 indicate presence of groundwater at depths from 1.3 m at

[4] Wetlands of international importance designated under the criteria of the Ramsar Convention on Wetlands.
[5] Sites designated according to the Council of Europe Convention on the Conservation of European Wildlife and Natural Habitats.

the location of the planned bridge near Trubarevacki stream up to 9 m at the site of the planned underpass within the Stalac station.

4.4 Air Quality

The main sources of air emissions in the Project area: (i) traffic on the municipal road and the state road no. 215, (ii) existing trains using diesel on the line from Stalac to Djunis (these trains are rare), and (iii) individual heating units in villages. Both human and ecological receptors in the Project area, potentially susceptible to adverse air quality, are identified as: (i) properties in Stalac and Djunis along the road and railway route in the vicinity of construction works, (ii) properties in the vicinity of haulage roads as well as (iii) the Juzna Morava River, Mojsinje Mountain and Stalac Gorge designated as the ecological network.

4.5 Climate

The Project area has a moderate continental climate, characterised by warm and dry summers and cold winters. The average annual temperature of 12.3°C was recorded in 2021 and the year is assessed as warm compared to the reference period 1981-2010. The average annual rainfall was 735.7 mm. The month with the highest rainfall was January, while three months during the year were assessed as dry. Most of the year, wind blows from west to east with a speed between 5 km/h and 12 km/h. Regarding climate changes, a continuous increase in average annual temperature (between 2°C and 4.5 °C) in the Project area is predicted by the end of 21st century. Precipitation decrease that is already observed during the June-August is expected to continue in future. It is expected that changes in precipitation will be more seasonal than annual, with more frequent heavy precipitation events and higher precipitation accumulation. The entire watercourse of the Juzna Morava River is assessed as a significant flood area. The possibility of landslides occurrence is assessed as unlikely in Stalac, while going towards Djunis it increases and is assessed as 'likely'.

4.6 Noise

The Project area belongs to the acoustic zone 5 (commercial, administrative-government zone with apartments, zone along motorways, main and city avenues). The limit values for noise in zone 5 are 65 dB(A) for day and evening, and 55 dB(A) for night. Background noise measurements conducted at three locations near residential facilities during the daytime indicate that noise levels are within the limits prescribed by national requirements.

However, an increase of noise levels is expected in the operation phase for sensitive receivers such as residential building positioned along the railway. The zones with sensitive receivers have been identified and primary protection measures with noise barriers are foreseen. Noise barriers are planned on both sides of the railway line in the total length of 748 m. To suppress noise in tunnel portals, absorbing wall cladding is foreseen in the direction of tunnel exits. The design of noise barriers must comply with provisions of national and EU standards, as well as corresponding standards.

4.7 Vibration

No baseline vibration and/or low frequency noise measurements are available. However, the Contractor has an obligation to define construction vibration and low frequency noise monitoring plan and to perform vibration and/or low frequency measurement before start of construction works.

In the construction phase, the increase in vibration and low frequency noise is expected as a result of use of tools, equipment and machines during the execution of works. Calculation of vibration levels indicate that the temporary negative vibration impact can be expected at distances up to 50 m for the activities that engage loader and Roller (15t) machines. Other construction tools, equipment and machines will produce lower vibration levels, and the distances at which exceedances occur are smaller (up to 10 m). The negative impact of low frequency noise during mechanical tunnel excavation (heavy rockbreaking) can be expected at distances

up to 30 m. The negative impacts of the vibration and low frequency noise will be reduced as the construction of the railway tracks progresses along the route away from sensitive receivers. For all residential and other sensitive buildings which are in zones up to 50 m from the construction site, temporary mitigation measures will be needed to reduce the negative impact of vibration and/or low frequency noise.

In the operational phase, a negative vibration impact can be expected on open tracks at distances up to 25 m, in stations' switch areas at a distance up to 35 m from the switch, and in tunnels at distances up to 10 m. In the switch areas of the Stalac and Djunis stations, for all residential and other sensitive buildings which are in zones from 25 to 35 m, it is necessary to plan mitigation measures to reduce the negative impact of vibration.

4.8 Soil

The subsection Stalac-Djunis is part of the Balkan Peninsula, as a seismically very active area of the Mediterranean-Trans Asian seismic belt. The subsection is located in zone VIIIº MSK scale. The intensity of earthquakes recorded so far in the Project area did not exceed 5.5 MWu. The most common types of land use along the railway are arable land, forests, orchards and vineyards, and residential land. The percentage of agricultural land in relation to total Project area is in the range of 60-65% and consists mostly of arable land and gardens. SRI does not conduct regular soil quality monitoring, but it does perform monitoring in case of accidents (e.g., spillage of hazardous substances) at the request of the Ministry of Environmental Protection.

4.9 Landscape

The Project area landscape is characterised by the Juzna Morava River Gorge, which forms a narrow valley bordered by short steep slopes. Altitude varies between 140 and 500 m above sea level. The banks of the Juzna Morava River are covered with dense riparian vegetation. The settlements are in average about 2 km apart. The Djunis settlement is located on the left side of the railway and is surrounded by mixed deciduous forest. The settlement is scattered and has a rural character, with a lower number of inhabitants who are usually engaged in agriculture. Alongside and above the railway, the construction of an overpass is being placed, passing over arable land and encompassing the settlement of Djunis.

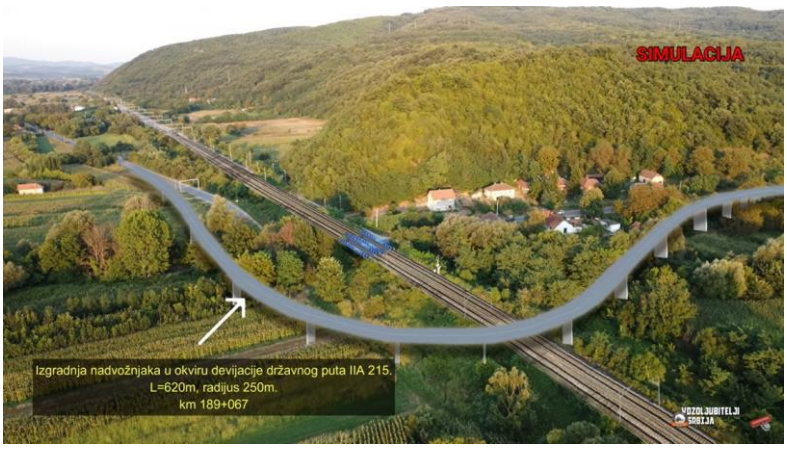

Figure 2: Route of the future railway alignment with the construction of an overpass within the realignment of the state road in the Djunis settlement

The natural component of the landscape along the railway in the Trubarevo settlement is characterised by flat terrain with arable land. The subsection is prone to flooding of the Juzna Morava river, and the two-track railway will be placed further from the river and closer to arable land. The area around the railway is uninhabited, and the Djunis settlement is on the left side of the railway.

Figure 3: Simulation of a two-track railway on the Stalac-Djunis subsection in the settlement of Trubarevo

The intersection of the existing and new railway alignment is on the right side of Djunis. The terrain is characterised by shrubs and occasional meadows in-between. Higher slopes are covered by woodland and broadleaved forests.

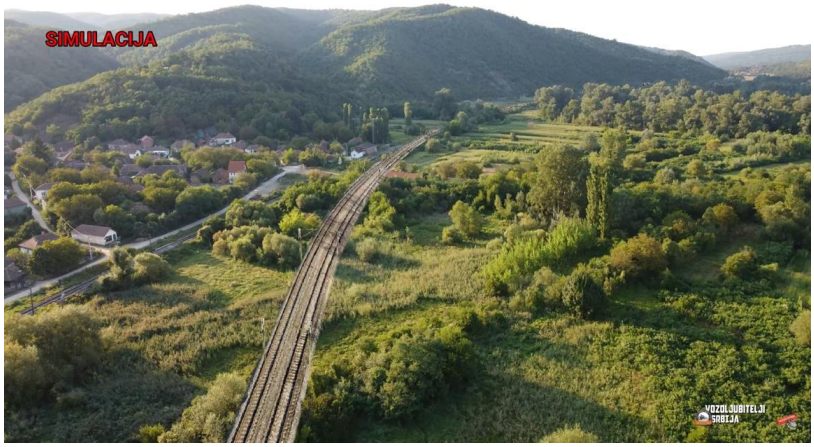

Figure 4: Crossing of the existing railway with the new one in the settlement of Djunis

Exit portal of Tunnel no. 3 which will be located in a hilly uninhabited area covered in broadleaved forest.

Figure 5: Exit portal of Tunnel no. 3

The entrance of tunnel 4 will be placed on a stable rock slope in hilly terrain. The dominant vegetation is broadleaved forest. The landscape is uninhabited because of harsh mountainous conditions. The Juzna Morava River is left to the railway. Access roads to the tunnel will be under the right side of the railway.

Figure 6: Entrance portal of Tunnel no. 4 with access road

A 30 m long gallery is planned at km. 185+615, between Tunnels no. 4 and 5. It is designed on a slope because of the very steep terrain. The landscape around the gallery is characterised by hilly, forested areas and steep slopes. The area is uninhabited because of harsh mountainous conditions. The main road passes to the right of the gallery.

Figure 7 7: Gallery between the entrance portal of Tunnel no. 4 and entrance portal of Tunnel no. 5

The landscape at the exit portal of Tunnel no. 5 is characterised by the agricultural land in lower terrains and forested areas on the slopes on the left. The two-track railway passes through arable land and is placed further from the existing railway. The exit portal of the tunnel will be on a stable rock slope.

4.10 Waste

The main types of waste generated during the construction of the Stalac-Djunis subsection will be waste generated from terrain preparation for the construction of the new railway and the dismantling of the existing railway. The exact location(s) for final disposal of spoil are not yet known. Excavated material will most likely be used for embankments or as an earthwork fill. The SRI will require from the Contractor to develop a Construction Waste Management Plan and implement it throughout the construction phase.

SRI develops three-year Waste Management Plans (WMP) for its operations in line with national regulations. The Plan defines the procedures for waste identification and managing, prevention of waste generation, rational use of natural resources, elimination of dangers and its harmful effects, as well as procedures and

methods for waste disposal. The final disposal of (hazardous) waste is organised in cooperation with licenced waste management companies or the waste is sold on the market through tendering procedure. The wooden sleepers that will be replaced during reconstruction are considered as hazardous waste. The current practice is to temporarily store wooden sleepers on a solid stable base with equipment for collecting spilled liquids and degreaser. The options for their final disposal have not yet been defined, and SRI is working together with the Ministry of Environmental Protection to find the best option.

4.11 Population and Communities

The planned railway line will pass through an area mainly belonging to the Municipality of Cicevac (roughly 80% of the Project area) and in a smaller part to the City of Krusevac. The Project area is largely a rural, sparsely populated area which is unevenly populated, as is characteristic for hilly and mountainous terrains. The largest settlements are towns of Stalac and Djunis (the starting and end points of the railway line) where the two stations are planned to be reconstructed. Between them are small villages with mostly scattered groups of individual houses. Farming is the dominant economic activity in the Project area ands the majority of farmland plots are small (up to 3 ha). People engaged in agriculture currently use the level crossings on the existing railway to reach their farmland.

The *existing* railway route passes through and/or nearby the following 7 settlements: Stalac, Stalac Town, Braljina, Mojsinje, Cerovo, Trubarevo and Djunis. The *new* railway route will be moved away from two settlements: Braljina and Cerovo. The existing station in Braljina and the existing halt in Cerovo will both be closed.

Community characteristics can be summarised as follows:

- **Stalac** is the main and largest settlement on the proposed route and the starting point of the Project. It has a railway station which will be reconstructed. It has a population of around 1,500.
- **Stalac Town** (even though called a town, actually a village) is located on the left bank of the South Morava River, opposite to the proposed route. It has a population of around 690.
- **Braljina** is an old village located at about 12 km from Stalac. The existing railway line passes through Braljina but the proposed line will be moved about 3.5 km from the village. It has a station which will be closed. There are actually two villages called Braljina – one is Braljina Rasinska and the other is Braljina Razanj. They are at about 1 km from each other and between them is the Juzna Morava River. The two villages are connected by a suspension bridge. Each has a population of around 50. The current station (which will be closed) is located in Braljina Razanj. Braljina Rasinska is connected to Trubarevo with a recently reconstructed 5.7 long local road (Braljina-Trubarevo).
- **Cerovo** is an old village located on the right bank of the Juzna Morava River. The existing railway line passes through this village but the proposed line will be moved about 1.7 km from Cerovo. It has a halt which will be closed. It has a population of 48.
- **Mojsinje** is a very old village located on a hill on the left bank of the Juzna Morava River. By road, it is connected to both Braljina and Trubarevo. One of the planned tunnels will pass under Mojsinje with no direct impacts on the village. It has a population of 17. Currently, the nearest station/halt for Mojsinje residents is in Trubarevo. After project implementation, the next nearest station will be the Djunis station (7.7 km away).
- **Trubarevo** is a village on the left bank of the Juzna Morava River. The proposed route will pass through the outskirts of the settlement. It has a halt which will be closed. It has a population of 108.
- **Djunis** is the final point of the Project. It has a railway station which will be reconstructed. The proposed route will pass through the outskirts of the settlement. It has a population of 680.

4.12 Cultural Heritage

Five cultural heritage sites have been identified in the Project area (located up to 600-700 m from the planned railway and/or access roads):

1. **Archaeological site Medieval Town of Trubarevo** sits on the southern side of the Gradište peak, surrounded by the Juzna Morava River on three sides, and on the existing Belgrade-Niš railway on the fourth (western) side. The *narrower* protection zone of the site is currently located at approx. 500 m from the existing railway route. From the new railway (i.e., planned Tunnel 5), it will be approx. 1 km away. The *wider* protection zone is currently in the immediate vicinity approx. 50 m of the existing railway, but the new route will be moved 200 m away from the site[6].
2. **Church of "Sveti Pantelejmon"** (cemetery church) was built at the beginning of the 20th century. It is located at approx. 50 m from the existing railway from which it is separated by a local road. The new route of the railway is planned at a distance of about 100 m from the church.
3. **Archaeological site "Nikoljac"** is very close to the Church of "Sveti Pantelejmon", and is located at a distance of approx. 50 m from the existing railway from which it is separated by a local road. The new route is planned at a distance of 150-180 m from this site.
4. **Church of "Sveta Nedelja"** dates back to the Middle Ages and is one of the rarest churches/monasteries that have been preserved in its original condition from that period. It is located near the planned exit of Tunnel no. 3 and entrance of Tunnel no. 4, as well as the planned access road to Tunnel no. 4. Due to this proximity, it will be necessary to pay particular attention to prevent cutting off access to the existing road infrastructure which leads to the Church.
5. **Church of "Svetih Arhangela"** dates to the 17th Century. The cultural event "Pod krilima Arhangela" is held here every year in July. The church is currently located north-east from the existing railway at approx. 650 m. Since the newly planned route follows the existing route in that area (to the point where Tunnel no. 1 is planned), the distance to the new alignment will remain the same.

Within the procedure for obtaining Location Conditions for this Project in 2021, the Institute for Protection of Cultural Monuments in Kraljevo provided its official opinion in December 2021, defining the measures needed to protect cultural heritage sites.

4.13 Gender Considerations

SRI has adopted a Gender Equality Code (2018), and SRI's Ethics Committee is responsible for monitoring its implementation. SRI has also adopted a Code of Business Ethics which sets out the general rules for conduct of employees and the course of action in cases of workplace harassment.

The transport sector in Serbia employs mainly men (80% of employees are men)[7]. Gender mobility patterns are associated with different transport needs and purposes, as well as different transport modes. Only 16% of women drive a car on their trips, compared to a higher proportion of men, which indicates that women in Serbia are more dependent on transportation service providers. Public transport and walking are the most frequently used modes by women. Driving licence ownership rates are much higher among men than women. Due to their mobility patterns, women in rural areas depend on others for transport. A quarter of rural population reported various obstacles in using public transport during commuting: poor public connections, lengthy public transport journeys and lack of reliability of public transport. These obstacles have a significant impact on rural women. In addition, gender differences contribute to perceptions of safety and security in transport. Women feel less safe when using trains than men.

[6] It should be noted that the new route in this part (200 m away) passes through Tunnel no. 5, and that the distance from the closest point of wider protection zone from the entrance/exit of the tunnel will be approx. 700m.
[7] Gender Equality in Transport in Serbia, 2019

5 Summary of Environmental and Social Impacts and Mitigation Measures

This section provides a summarised description of impacts and mitigation measures for construction and operation of the planned railway line based on the assessment provided in the 2016 ESIA as well as the results of the due diligence process conducted in 2022 for needs of developing the Supplementary Study. Where applicable, it highlights the need to conduct additional assessments or undertake additional mitigation measures, included within the ESAP and ESMP as implementable actions.

5.1 Impacts on Biodiversity

The principal construction impacts on biodiversity are related to: (i) permanent loss of natural and semi-natural habitats within the railway footprint, (ii) temporary disturbance and fragmentation of fauna habitats, (iii) construction collisions and (iv) potential increase of sediment load in Juzna Morava River. As a part of mitigation measures provided in the ESMP, the Contractor will be obliged to develop and implement a *Construction Biodiversity Management Plan* which will include measures such as: vegetation for clearance must be clearly demarcated, any tree above 100 mm in diameter is to be checked by an appointed ecologist prior to removal to protect any potential bat roosts, at least 5% of cut down trees must be left in the forest to support saproxylic beetles of conservation concern (e.g. stag beetle), works must be scheduled in a way that will avoid and minimize impacts on fauna in sensitive periods (breeding, nesting, migration, roosting, foraging) whenever possible, daily walkover of construction sites must be done by an employed ecologist, the construction site must be fenced, monitoring of invasive species must be conducted, habitat statuses and species must be done throughout land preparation and construction.

The main operational impacts on ecology and nature conservation are related to: (i) permanent fragmentation of habitats, (ii) potential disturbance of specific biological functions (nesting, breeding, foraging) by noise or light effect, (iii) electrocution on power lines or collision with the railway, (iv) potential contamination of vegetation by herbicides. SRI must prepare and implement an *Operational Biodiversity Management Plan* to ensure support to biodiversity of the area through mitigation that will result in no net loss and net gain (where needed). The Plan will include specific actions to be implemented through the lifetime of the Project and support biodiversity of the area and include: monthly walkovers during year 1 of operation in order to assess the success of mitigation measures, reporting on all monitoring activities, maintenance of railway right-of-way and the surroundings, installation of bird and bat boxes, management of invasive species and updating of the Plan in case monitoring brings up additional concerns.

5.2 Impacts on Protected Areas

Impacts on areas of ecological concern are comparable to impacts expected to affect biodiversity as a whole. When evaluating possible impacts in the Appropriate Assessment process, ecological needs of present species were taken into consideration in the absence of management plans and conservation objectives for the areas in question. The main identified impacts are, therefore, loss and fragmentation of habitats, mortality of fauna during construction and operation, increased sediment load and potential contamination by herbicides. However, considering the higher ecological value of habitats present in the ecological network, mitigation must be targeted towards valuable biodiversity features of the areas as given in the ESMP. In order to mitigate the impacts on protected areas, *Construction and Operational Biodiversity Management Plans* must be developed and implemented. The summary of mitigation measures to be included in this plan are given in Chapter 5.1 above.

5.3 Impacts on Water

The main identified potential impacts in the construction phase are related to temporary decrease of groundwater levels and reduction in surface water and groundwater quality due to earth works and uncontrolled discharge of effluent or harmful substances into waters. Tunnel construction can impact the ground water quality, flow and recharge, as well as springs yield. If drainage water from tunnel tubes is directly discharged, the quality of surface waters can be reduced. Sediment release into river and disposal of municipal and other special waste categories into the rivers can also reduce the water quality.

In the operational phase, groundwater contamination can possibly occur due to accidental spillages or leaks from freight trains or accumulation of heavy metals from herbicides along the railway line, as well as minor leaking of oil, grease and other chemicals from the rolling stock. Natural flood plain capacity can be reduced due to the embankment passing along the low-lying flood plain of the Juzna Morava River. Accumulation of sediment in the area of bridge piers in the Juzna Morava River can also impact the river morphology.

Measures for minimising construction and operation related impacts and risks on waters are defined in the ESMP. In the construction phase, the Contractor will be responsible for development and implementation of a *Construction Water and Soil Management Plan* and a *River Crossing Plan* to mitigate construction impacts on both water and soil. In the operational phase, the responsibility of SRI is to develop and implement an *Operational Water and Soil Management Plan* to prevent water and soil pollution. The focus of the Plan is on control of use of herbicides in the maintenance of right-of-way and harmful substances for maintenance of bridges (paints, de-icing fluids, track grease), regular control and maintenance of drainage structures, sediment traps, basin, and treatment system. Monitoring of water quality in case of spills will be required in accordance with the national Law on Waters.

5.4 Impacts on Air Quality

The main potential negative impacts on air quality in the construction phase are related to emissions of dust and harmful particles because of demolition works, earthworks, transport and disposal of excavated materials, movement of construction mechanisation and transport vehicles. Since the railway will be fully electrified, the potential negative impacts on air quality during the operation phase are not expected. In case of reconstruction and maintenance works the same impacts as in the construction phase are expected.

The measures for mitigation of construction and operation related impacts on air quality are defined in the ESMP. In the construction phase, the Contractor will develop and implement a *Construction Air Quality and Dust Management Plan*, which will include set of measures to mitigate the negative impacts of railway construction on air quality. The plan will be focused on measures to control dispersion of dust from the construction activities to the nearby receptors, emissions for the machinery and measures for stockpile management. Beside good construction practices, regular daily visual monitoring of dust deposition will be required especially on locations where higher levels of dust are likely. In the operational phase, the SRI will develop and implement an *Operational Air Quality Management Plan*, which will address maintenance and reconstruction works that may include demolition and reconstruction activities. Similar mitigation measures as in the construction phase are foreseen. In case SRI subcontracts reconstruction and maintenance activities, it should transfer the obligation to the Contractor to prepare an Operational Air Quality Management Plan.

5.5 Project Impacts on Climate and Impacts of Climate Change on the Project

The main negative impact of the Project on climate change is emissions of GHG gases from construction equipment and vehicles. The following potential negative impacts of climate change on the Project during the construction phase have been identified: (i) flooding of the construction area and consequent damage to infrastructure and construction equipment, (ii) land subsidence can cause damage to construction equipment, machinery, and materials (iii) heat stroke and increased risk of fire may temporarily suspend Project activities

and cause damage to construction equipment. To mitigate negative impacts, the Contractor will develop and implement a *Construction Emergency Preparedness and Response Plan* to eliminate hazards and reduce potential negative impacts including those arising from extreme weather conditions.

Since the railway will be fully electrified, it is expected that the railway operation will have **positive impacts** on climate change. However, potential negative impacts of climate change on the railway infrastructure are: (i) physical damage of railway infrastructure as a result of floods, landslides and fires, (ii) reduced visibility in case of fire; fire also generates GHG emissions, (ii) trains damaged by floods and fires, and disruption of railway flow, (iv) and subsidence in case of droughts can lead to damage of railway infrastructure. To mitigate these potential negative impacts, SRI will prepare a detailed *Operational Emergency Preparedness and Response Plan* to achieve appropriate and effective emergency preparedness and response activities for foreseeable emergency events should they arise.

5.6 Noise Impacts

Potential noise related impacts in the construction phase are impacts to workers, residents and fauna as a result of the excavation works and accompanying construction activities. In the operational phase, nearby sensitive receivers (residents, fauna) may be impacted by noise from the passing trains. The mitigation measures for all identified noise related impacts in the construction and operation phase are summarised in the ESMP.

In the construction phase, the Contractor will develop a *Construction Noise and Vibration Management Plan*, which will include the best construction practices to mitigate the negative impacts of noise. These will include activities like management of noisy construction equipment, implementation of adaptable working protocol and working hours in line with national legislation on working hours and non-working day (holidays), as well as appropriate communication with public. Generally, the construction working hours will be limited during day according to national legislation, especially in the vicinity of the noise sensitive objects. In the case that the (re)construction works will cause less E&S disturbances, then, if needed, they can also take place at night. The Contractor will conduct measurement of baseline noise levels of the site and the surrounding area, as well as periodical measurements of noise in case of local residents' and workers' complaints.

In the operational phase, SRI will develop an *Operational Noise and Vibration Management Plan*. The Plan will include annual noise monitoring in zones of residential and other sensitive buildings located in the immediate vicinity of the railway as well as technical and visual control of noise barriers in accordance with relevant standards. Noise monitoring will be performed in the zones of residential and other sensitive buildings located in the immediate vicinity of the railway. In case of excessive values, the SRI shall take additional passive protection measures. Visual control of noise barriers shall be carried out at least once a calendar year.

5.7 Vibration Impacts

The potential vibration related impacts in the construction phase are: (i) impact on residents in nearby residential buildings due to ground-borne vibration induced by blasting and movement of heavy vehicles when there are irregularities in the road surface, (ii) impact on workers during construction activities and (iii) impact on local fauna. In the operational phase, negative impact on residential receptors are connected with vibrations caused by the train movement.

Mitigation measures for all impacts in the construction and operational phase are summarised in the ESMP. In the construction phase, the Contractor will develop and implement a *Construction Noise and Vibration Management Plan*, which will include measures to mitigate negative impacts of vibration. These will include activities like use of low or non-vibratory piling equipment, use of static force compaction, managing the blasting process to reduce blasting vibration and selection of demolition methods not involving vibration

impact, where possible. In the operational phase, the SRI will develop an *Operational Noise and Vibration Management Plan*. The Plan will include the vibration monitoring in the switching area of the Stalac and Djunis stations that shall be conducted once during year 1 of operation.

5.8 Impacts on Soil

In the construction phase, the potential impacts/risks on soil are related to (i) permanent loss of soil, (ii) soil destabilisation, (iii) soil degradation, and (iv) soil contamination as a result of various construction activities occurring at the site. Temporary disturbance to local land use (transport and access roads, landfills, areas for workers, agricultural activities) due to land take for construction activities is also identified. In the operational phase the impacts/risk from soil erosion and soil contamination are identified as a result of leakage of oil, grease and other chemicals from the roiling stock and during freight transport, as well as usage of herbicides

The measures for mitigation of construction and operation related impacts on soil are defined in the ESMP. In the pre-construction phase, the Contractor must conduct soil quality monitoring along the railway alignment (at approx. 0.5-1.0 m from the alignment) to determine the baseline conditions before staring the construction works. In the construction phase, the responsibility of the Contractor is to develop and implement the *Construction Water and Soil Management Plan*. The focus of the Plan will be on prevention of erosion and preserving the soil quality. In the operational phase, the responsibility of SRI is to develop and implement an *Operational Water and Soil Management Plan* focused on appropriate application of herbicides to reduce unnecessary overuse and to reduce the risk of leaching to soil and groundwater, erosion prevention and monitoring of soil quality in case of spills. In case of dismantling the existing railway (at locations where the new route deviates from the existing one) and land reuse for agricultural or sports-recreational purposes, it is first necessary to examine the soil quality to determine the possible level of contamination, and then conduct soil decontamination activities, if needed.

5.9 Impacts on Landscape

In the construction phase, potential impacts/risks on landscape and visual values include (i) clearance of localised areas of tree and shrub vegetation and removal of land cover, (ii) Increased level of "urbanisation" due to construction mechanisation, (iii) adverse changes in land use along the railway route. In the operational phase the impacts are not expected. The existence of railway in general can generate negative sensation for the observer due to overall landscape change due to land cuts for tunnel structures and introduction of vertical structures in the rural environment and nature designated area.

The measures for mitigation of construction related impacts on landscape are defined in the ESMP. In the construction phase, the Contractor will develop a *Construction Planting Management Plan* to cover landscaping actions and restore the construction site to its original state. Planting activities will be implemented during, or as soon after construction in order to keep the construction site clean after the competition of the construction works. Planting measures will be designed to provide enhancement to local landscape character, as well as connectivity within the wider landscape where possible.

No specific measures for the operational phase are foreseen.

5.10 Waste Impacts

The main negative impact in the construction phase is generation of larger amounts of inert, non-hazardous and hazardous waste such as excavated material, dismantled railways tracks and sleepers, construction and demolition waste from reconstruction of station buildings, municipal waste etc. The risks for the environment are related to inadequate waste handling and disposal. In the operational phase, municipal waste generated at stations and waste from maintenance activities that is similar to that in the construction phase is expected.

Negative impacts on the environment can occur as a consequence of improper waste handling and temporary storage arrangements for materials that are dismantled during maintenance activities.

The measures for mitigation of risks related to of improper waste management in construction and operation phases are defined in the ESMP. In the **construction phase**, the Contractor will prepare a *Construction Waste Management Plan* to cover all activities associated with the production of wastes during construction and maximise reuse and recycling. A Decommissioning Waste Management Plan will be requested for the existing railway line. An asbestos survey will be conducted to identify the presence of any asbestos-containing materials in station building that are subject to reconstruction. Where identified, removal by licensed asbestos removal contractor and managing in accordance with the national requirements on asbestos-containing waste will be requested. In the **operation phase**, the SRI will update and continue to implement its three-year *Operational Waste Management Plan* in accordance with the national Law on Waste Management.

5.11 Labour and Occupational Health and Safety

A positive impact of the Project will be employment and procurement opportunities for locals. To enhance these opportunities, the Contractor will, to the extent possible, employ local workers by providing preference to suitably qualified and experienced applicants from local communities that are in close proximity to the Project. For construction, the Contractor will also develop a Construction Labour and Employment Plan, as well as a Construction Workers' Code of Conduct. An independent labour audit at regular frequency during construction will be organised by SRI.

Construction activities will carry risks for workers as is typical for such construction projects (work at heights, slips and falls, moving machinery, confined spaces and excavations, etc.). The Contractor's Construction Health, Safety and Security Plan will set out the specific measures to manage these risks.

The location of workers' accommodation that will be needed for the Project has not been determined yet (this will be the responsibility of the Contractor). As defined in the ESMP, worker accommodation will need to be provided by the contractors in line with national legislation and the EBRD/IFC Guidance Note "Workers' accommodation: processes and standards".

The operation and maintenance phase will also involve some risks for workers' health and safety such as train/worker accidents in the vicinity of rail lines, noise and vibration from rolling stock and machinery, electrical hazards during work on overhead wires or conductors, confined spaces and excavations, etc.). Furthermore, the Project will require the closure of some stations along the existing railway line but SRI is not planning any staff dismissals, so the current staff working at these stations will be re-qualified and reallocated to other jobs. SRI will develop a plan for the prequalification and reallocation for staff currently employed in stations which are planned to be closed, with provisions to minimise any impacts on the workforce that will be reallocated in terms of level of pay and other benefits, years of service, types of contracts, etc.

5.12 Impacts on Local Communities

Closure of stations and halts. On the existing railway line, there are three stations (Stalac, Djunis, Braljina) and two halts (Cerovo and Trubarevo). However, the Project will only keep two stations (Stalac and Djunis) while the rest will be closed. The Braljina, Cerovo and Mojsinje settlements have no other organised means of public transportation such as bus or minibus lines. It should be noted that the population in these settlements is mostly elderly and low-income. Measures regarding provision of alternative transport options are defined in the ESAP: SRI will liaise with the Municipality of Cicevac and the City of Krusevac to agree on and organise alternative transport options such as minibus lines for these villages or other available means of transportation. There are currently no details of routes for these alternative means of transportation but they will be agreed through discussions with the local authorities/communities and consultations with the Ministry of Construction, Transport and Infrastructure.

Access impacts. People engaged in agriculture currently use the level crossings on the existing railway. All level crossings will be closed, and two underpasses will be constructed. These underpasses are in line with the width and height requirements of national regulations and are deemed acceptable for passing of agricultural machinery. However, local authorities and communities may have some concerns about the planned underpasses with regard to their dimensions and safety considerations. Therefore, mandatory consultations with local authorities during the final design stage are defined in the ESMP.

There are four specific locations with many cultivated land plots assessed for severance impacts:

- *Agricultural fields near the Djunis station:* The local access roads used by farmers currently connect with state road no. 215 (Kruševac–Djunis–Deligrad) which will be realigned. The planned railway will have a de-levelled intersection with this realigned road at one location. When the state road is realigned, it will be necessary to ensure connection between the mentioned local roads and the new (realigned) part of the state road to maintain the existing road communication and avoid cutting off of the local road which would endanger access to farmland. This is a proposed consideration included in the ESMP for the final design stage.
- *Agricultural fields in Trubarevo:* The existing access roads in the Trubarevo settlement currently intersect with the existing railway by means of level crossings and enable access of local population to farmland on the other side of the railway. Since the new railway does not foresee any level crossings, an underpass to which a newly design access road willl lead is planned on this location. The greatest distance from farmlands to the underpass will be around 1 km, which is considered as acceptable.
- *Agricultural fields after Trubarevo:* A 290 m long viaduct leading into Tunnel 5 is planned above farmland in an unpopulated section after the Trubarevo settlement, so no access restrictions are likely.
- *Agricultural fields near Stalac:* Access to farmland will be enabled by means of an underpass. The greatest distance from farmlands to the underpass will be around 400-600 m, which is considered as appropriate.

Construction-related impacts and risks. The Project area is not entirely a highly sensitive area in terms of community health, safety and security as the built-up area through which the railway line passes is mainly concentrated in Stalac, while other areas are sparsely populated agricultural and forest areas. There are two other villages on the railway line (Trubarevo and Djunis) but the railway line passes through their outskirts. Since the identified vulnerable households live mostly in villages, it is not considered that construction activities will have a particular adverse effect on them. In addition, there are no Roma settlements along the planned railway line.

There will be some air pollution, noise and vibration impacts associated with construction and operation (a summary of these is provided above in sections 5.4, 5.6 and 5.7 respectively) and a potential for impacts on water (please see section 5.3 above).

Construction activities may cause damage to local roads which is a concern that has been raised by the local communities during consultations carried out in 2022.

Access to community infrastructure and cemeteries in part of the Project area belonging to the Municipality of Cicevac may be temporarily restricted during construction works.

Worker influx and gender-based violence and harassment (GBVH) risks are not expected to be significant based on the fact that the majority of the areas where construction works will be undertaken are areas distant from settlements and that the workforce is expected to be local to the extent possible.

Measures for minimising construction-related impacts and risks on surrounding communities are defined in the ESMP. The Contractor will be required to carefully plan the construction works by developing a Construction E&S Management Plan which will cover various topics such as noise and vibration management;

air quality and dust management; traffic management; health, safety and security; and emergency preparedness and response. Measures relevant to surrounding communities include (but are not limited to) the following:

- Construction compounds locations will be selected in consultation with affected communities.
- Local residents will be informed of the planned works and the potential periods of disruption.
- The construction site layout will be planned so that machinery and dust causing activities are, as far as reasonably practicable, located away from receptors (such as residential properties).
- Noisy construction equipment and equipment generating a lot of vibration will be located as far as possible from sensitive receptors.
- The Contractor will ensure access to all community infrastructure, roads and cemeteries in the Project area – in case of any unavoidable temporary access restrictions, the Contractor will inform the Municipality of Cicevac and City of Krusevac and the public in advance of works commencing.
- The Contractor will repair any damage caused by construction vehicles to public roads in a timely manner.
- A public grievance form (provided in the Stakeholder Engagement Plan) will be available at construction sites.

5.13 Impacts on Cultural Heritage

No cultural or archaeological sites are located on the route of the railway and construction of new access roads will not lead to any direct impacts on cultural heritage. However, five known assets have been identified (listed in section 4.12) that could be potentially affected by construction activities and movement of machinery, and therefore require mitigation measures.

With regard to the Church of "Sveta Nedelja", it is considered that the possibility of disturbing the access road to this church is high, so an adequate access road to this facility will need to be foreseen in the final design. With regard to the Church of "Svetih Arhangela", it is considered that no construction related impacts such as dust or noise are likely as it is located approx. 650m from the planned Tunnel no. 1. However, there is an annual religious event held in front of the church every July titled "Podkrilima Arhangela" - the access road leading to this church could potentially be affected by heavy traffic, as it is assumed that this road will be used for the passage of machinery during construction works. It is therefore important for the Contractor to liaise with the relevant authorities and plan the works in accordance with the important dates to minimise any impacts.

In addition, the likelihood of encountering previously unfound archaeological heritage in the Project area is assessed as high.

It should be noted that based on calculations of vibration intensity, no vibration impacts on any known cultural assets are expected.

For the operational phase, the Project is not anticipated to have a significant effect on cultural heritage, but operational maintenance activities which could lead to disturbances or damage to cultural heritage will also need to be carefully planned.

Measures for protection of both known and previously unrecorded heritage for the construction and operation phases are provided in the ESMP. The Contractor will be required to develop a Cultural Heritage Management Plan which will cover the following: consultations with the Municipality of Cicevac during the final design stage of the Project as well as the development of the Cultural Heritage Management Plan; supervision of all earthworks by an archaeologist; specific actions and measures to manage risks and impacts to the above listed cultural heritage sites as well as local cultural events in the Project area and water springs that are considered

to be intangible cultural heritage; and development of a Chance Find Procedure detailing necessary steps to be taken should any culturally significant assets be found.

For the operation phase, SRI will develop an Operational Cultural Heritage Management Plan to ensure that any maintenance activities with the potential to impact known cultural heritage assets are planned carefully and in liaison with the Institute for Protection of Cultural Monuments in Kraljevo, and that those undertaking maintenance activities are aware of the potential for previously undiscovered buried heritage remains to exist when undertaking any intrusive below ground activity.

5.14 Gender Impacts

The Project has the potential to positively contribute to the improvement of the following aspects:

- Safer public transport which is especially important for women as they often depend on transport service providers for travel;
- The two stations Djunis and Stalac will be reconstructed in line with European standards; the design features will likely contribute to greater perceptions of safety among women;
- More available, reliable and quicker transport for women who use the railway, particularly rural women;
- Development of rural tourism and economic opportunities for women in rural areas;
- Indirect employment opportunities for women in local communities that may arise within the Project supply chain.

The following gender risks of the Project have been assessed:

- During construction: influx of construction workers may lead to greater potential for GBVH – applicable primarily to the settlement of Stalac;
- During operation: closure of stations/halts potentially impacting more women in rural areas since they often depend on transport service providers; potential GBVH against women when walking to train stations/halts and potential discrimination against SRI female workers as drivers; possible concerns among women for use of underpasses as pedestrians, especially at night if the underpasses are not appropriately designed.

Measures to address these impacts and risks have been included in the ESMP. The Contractor will include in its Construction Workers' Code of Conduct provisions on managing GBVH risks, and Contractor's staff will receive training on this issue. For the operation phase, SRI will develop a Gender Plan.

5.15 Land Acquisition

No land acquisition is needed for LOT 1 of the Project but some land acquisition and resettlement will be unavoidable for LOT 2. Land issues and impacts are described in detail in the **Resettlement Action Plan** (RAP) developed for this Project in line with EBRD and EIB requirements and national law.

The Project requires the acquisition and clearing of approx. 79 Ha of land, of which approx. 43% is privately owned. The total number of land plots which will be affected is 877, of which 86% are privately owned. It should be noted that a significant number of land plots are planned to be only partially acquired. Some structures (houses, auxiliary structures and business structures) will be affected as well:

- 33 privately owned structures will need to be acquired, of which only six permanently inhabited
- Two business structures
- 18 non-residential structures (barns, etc.)

The project will cause the physical displacement (relocation) of a total of 13 households (39 individuals) and one business.

In addition, temporary land may be required temporarily during construction (e.g., for construction camps, material laydown areas, storage of topsoil and excavated materials). As stated in the RAP, the preferred areas of land which will be used for these purposes are any unused public land plots and if this is not possible, the Contractor will purchase and/or rent land from private landowners, based on voluntary agreements. It is expected that additional temporary land required by the Contractor will be acquired through negotiation and amicable agreements with landowners and there will be no involuntary displacement.

Further information on land and persons affected by the Project are provided in the RAP which also describes the resettlement process for the Project in line with both the national legislation and Lenders' requirements.

5.16 Cumulative Impacts

Cumulative impacts are analysed in relation to construction of other projects developed or planned in the Municipality of Cicevac and the City of Krusevac. The following projects are identified:

- Construction of the Pojate-Preljina motorway (so-called Morava corridor) with access roads (to be completed in 2024);
- Reconstruction and electrification of Lapovo-Kragujevac-Kraljevo-Raska-Novi Pazar and Stalac-Krusevac-Kraljevo-Pozega railway lines (timeframe is not known);
- Construction of small hydropower plants in the settlement of Stalac (the project is suspended based on the Decision issued by the Municipality of Cicevac in September 2021);
- Reconstruction of the municipal road Stalac-Trubarevo (timeframe is not known);
- Construction of a chicken farm (timeframe is not known).

The assessment of cumulative impacts has identified several negative impacts with moderate sensitivity. However, their probability of occurrence is very low. These include:

- *Air quality impacts* in the construction phase resulting from Increased emission of exhaust gases generated during the simultaneous work of construction machinery engaged on this Project and other projects in the Project area of influence, and dust when two or more projects use the same local infrastructure
- *Noise and vibration impacts* in the construction phase generated by simultaneous use of construction machinery, especially in case of nearby road/motorway construction and increased traffic through local settlements, when two or more projects use the same local infrastructure
- *Water quality impacts* in construction phase due to (i) Increased concentration of hazardous substances in water due to accidental spills on construction sites active at the same time and (ii) increase leakage from inappropriately disposed waste/spoil from construction activities.
- *Soil quality impacts* and *water quality impacts* in the operation phase caused by increased concentration of hazardous substances in soil due to simultaneous use of pesticides in agriculture and maintenance of railway right of the way or in case of simultaneous accidental spillage of hazardous substances from trains and vehicles on the motorway.
- *Landscape impacts* in both construction and operation phase caused by increased frequency in use of construction equipment and possible deforestation and removal of vegetation and personal sensibility to changes in the rural landscape.
- *Impacts from waste* in the construction phase caused by inappropriately handled/disposed waste/spoil from multiple construction activities and increased generation of municipal waste in workers camps that are active at the same time
- *Impacts on community health and safety* in the construction phase due to simultaneous development of several projects in the observed area, which can lead to more frequent and prolonged interruptions in traffic flow and access to facilities especially in the summer months when more

tourists visit the Project area, as well as during religious holidays when the frequency of vehicles is increased.

With implementation of measures given in the ESMP all cumulative impacts will be appropriately mitigated. No residual impacts are expected.

6 Disclosure and Communications

Previous stakeholder engagement. Several stakeholder engagement activities were undertaken in the previous period within:

- the national environmental permitting procedure (through public review of the EIA scoping request in 2015 and public hearings on the EIA Study in 2016),
- the spatial planning procedures (through public review and hearings for the Spatial Plan for the Stalac-Djunis section and the accompanying Strategic Environmental Report in 2016 and 2017),
- during the development of the Resettlement Action Plan (through meetings with local authorities and local residents in Cicevac and Krusevac during RAP development in August and October 2021), and
- the procedure of obtaining Location Conditions (through official consultations with relevant public bodies and public enterprises).

Planned disclosure and engagement activities. SRI intends to provide all relevant Project information to the public in Serbian language and English (where appropriate). A detailed **Stakeholder Engagement Plan (SEP)** in line with EBRD and EIB requirements has been developed. The SEP identifies the Project's stakeholders and outlines the stakeholder engagement and communication programme, including access to the Project's Grievance Mechanism.

The contact point for any enquiries or grievances related to the Project is given below:

Contact information for enquiries and grievances:

Media Centre of SRI
Attn: Nenad Stanisavljevic
Address: Nemanjina 6, 11 000 Belgrade
Tel.: + 381 11/3618443
E-mail: nenad.stanisavljevic@srbrail.rs

Detailed information on disclosure channels and other information is provided in the SEP.

Note: Since this is a Category A project, the disclosure package will be available for public review during a period of 120 calendar days prior to the consideration of the Project by the EBRD's Board of Directors. During the disclosure period, SRI will organise public consultations and encourage stakeholders to comment on the Project. Following the 120-day period, after the public consultation process is completed, a Public Consultation Report will be prepared and the disclosure package (including this NTS) updated as necessary.