

ZIVINICE WATER AND WASTEWATER PROJECT

Non-technical Summary

July 2026



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LIST OF ABBREVIATIONS

E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
ESP	(EBRD's) Environmental and Social Policy
EU	European Union
FS	Feasibility Study
NTS	Non-Technical Summary
O&M	Operation and Maintenance
PIU	Project Implementation Unit
SEP	Stakeholder Engagement Plan
WWTP	Wastewater Treatment Plant

1 INTRODUCTION

Project background. The European Bank for Reconstruction and Development (the “EBRD”) is providing financing to the City of Zivinice (the “City”) for modernisation and digitalisation of the below-ground drinking water and wastewater networks in the City of Zivinice (the “Project”). The City is the Borrower and will be responsible for overall Project implementation through the established Project Implementation Unit (PIU). The Project infrastructure will be operated by the public utility company JP Vodovod i kanalizacija d.o.o. Živinice (the “Company”).

Zivinice's drinking water and wastewater systems were originally constructed back in the 1960s and have seen little to no maintenance since then. As a result, both the drinking water supply and wastewater networks are underperforming. Despite the construction of a wastewater treatment plant (WWTP) in 2014, wastewater quality monitoring results from 2020 to 2023 show that the quality of treated wastewater often exceeds legally prescribed limits, indicating inadequate equipment maintenance.

Project development and categorisation. In 2023, the EBRD initiated the development of the Feasibility Study (FS) to assess the possibilities for improving water supply and wastewater management infrastructure in Zivinice. The FS was accompanied by an environmental and social (E&S) assessment of the priority investments proposed as the Project. Following further Project development and the adoption of the EBRD (ESP) 2024, the FS and associated E&S documentation were reviewed and updated to reflect the revised Project scope and the new EBRD requirements.

The Project has been categorised as Category “B” according to the EBRD ESP (2024), meaning that potential adverse environmental and social impacts are expected to be site-specific, largely reversible and readily mitigated through implementation of appropriate management measures. A summary of the Project scope is provided in the following chapter.

Strategic and policy alignment. The Project aligns closely with environmental policies and strategies at entity, cantonal and local levels. It supports the goals outlined in the Water Management Plan for the Sava River Basin, focusing on water protection, pollution prevention, water resource management, reduction of non-revenue water, improvement of sewerage systems and upgrade/construction of wastewater treatment facilities. Additionally, it contributes to the strategic objectives of the Environmental Strategy and Action Plan of Federation of Bosnia and Herzegovina for 2022–2032 by enhancing sustainable water resource use, preventing deterioration and improving the status of water bodies, and ensuring clean drinking water access for all citizens. The Project also complements the Development Strategy of Tuzla Canton for 2021–2027 by modernising water supply and sewerage infrastructure, and it resonates with the Development Strategy of the City of Zivinice for 2021–2027, which emphasises the improvement of public infrastructure, including water systems in both urban and rural areas. The Project also supports the Local Environmental Action Plan for the City of Zivinice for 2016–2026 by helping reduce water losses and improve wastewater collection and treatment.

Furthermore, the Project fully aligns with important European Union (EU) directives related to water quality and environmental protection. It is aligned with the Water Framework Directive by substantially reducing water losses and improving wastewater collection and treatment, thereby helping protect subterranean springs and reducing water pollution. The separation of the combined sewerage system enhances compliance with the Urban Wastewater Treatment Directive, reducing overflows and pollution during rainfall, while improved wastewater collection and treatment will further reduce pollution before discharge. Proposed sludge management measures, including potential sludge reuse where feasible, will additionally support compliance with this Directive. In adherence to the Drinking Water Directive, the Project ensures the availability of safe drinking water without straining natural resources.

Permitting requirements. In compliance with national regulations, the Project does not require an Environmental Permit. However, opinions from the Federal Ministry of Environment and Tourism will be required to determine whether Environmental Impact Assessment procedures are necessary for the planned water abstraction components and the new wastewater treatment facility. The Project will also require the relevant water acts and permits from the competent water authorities, together with construction and operation permits from the City of Zivinice. Additional approvals will be obtained for works located near the railway corridor and the M-18 main road.

This document is an updated Non-technical Summary (NTS) of the E&S Assessment of the Project, originally carried out in 2023 and subsequently reviewed and updated in 2026 following further Project development and the adoption of the EBRD's 2024 ESP. The NTS provides a Project summary in non-technical language covering the Project background and description, legal requirements, E&S benefits and impacts with mitigation measures needed to structure the Project to meet the EU requirements, EBRD ESP (2024), and the disclosure and communication requirements of the Project.

2 BRIEF PROJECT DESCRIPTION

The Project will cover investments in both water supply and wastewater management infrastructure.

Water supply system. The investments for the water supply system are planned in the City centre ("Zivinice City"), industrial zones Ciljuge and Maline, as well as in the suburban settlements Donja Visca and Dubrave.

The Project will include the following components:

- > reconstruction of the pressure transmission pipeline from PS Spreca to the point of interconnection with the pipeline from "Barice" wellfield to reservoir Mestrici,
- > reconstruction of the Mestrici Reservoir, including rehabilitation of the main transmission pipeline connections, associated pipework, valves and related construction, installation and insulation works within the pipe gallery and water chamber,
- > reconstruction and extension of the distribution network in the settlements of Strasanj, Orb, Sjever, Jezero, Novi Grad, Ciljuge, Litve, Golubinjak, Visca, Naselje uz prugu, Riba, Gornje Dubrave, Donje Dubrave and Donja Visca,
- > extension of the water supply network to the Ciljuge and Maline industrial zones, replacement of 50% of water meters,
- > installation of Supervisory Control and Data Acquisition (SCADA) system, as well as
- > replacement of pumps at PS Spreca, and

procurement of a spare pump for the new Pjesinac water source.

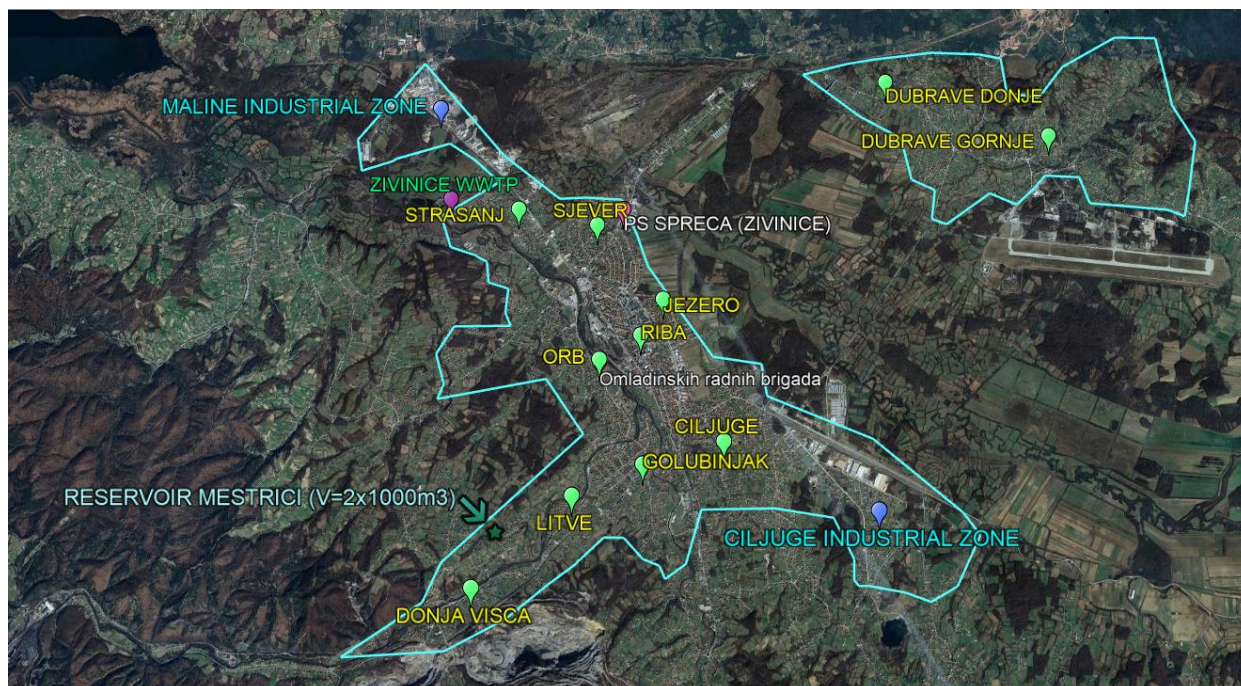


Figure 1: Scope of the planned water supply network reconstruction and extension

Sewerage system. In the Zivinice City, the wastewater infrastructure will be enhanced by separating the sewerage system into stormwater and sanitary sewerage. New pipes will be laid for the sanitary sewerage, and the existing combined system will be repurposed to serve as a temporary stormwater system after necessary cleaning. The collected stormwater will be treated in four newly installed oil and grease separators and then discharged into the Oskova River through four outlets. Additionally, the sanitary sewerage network will be expanded to include five additional settlements: Sjever, Ciljuge, Jezero, Donja Visca and Maline.

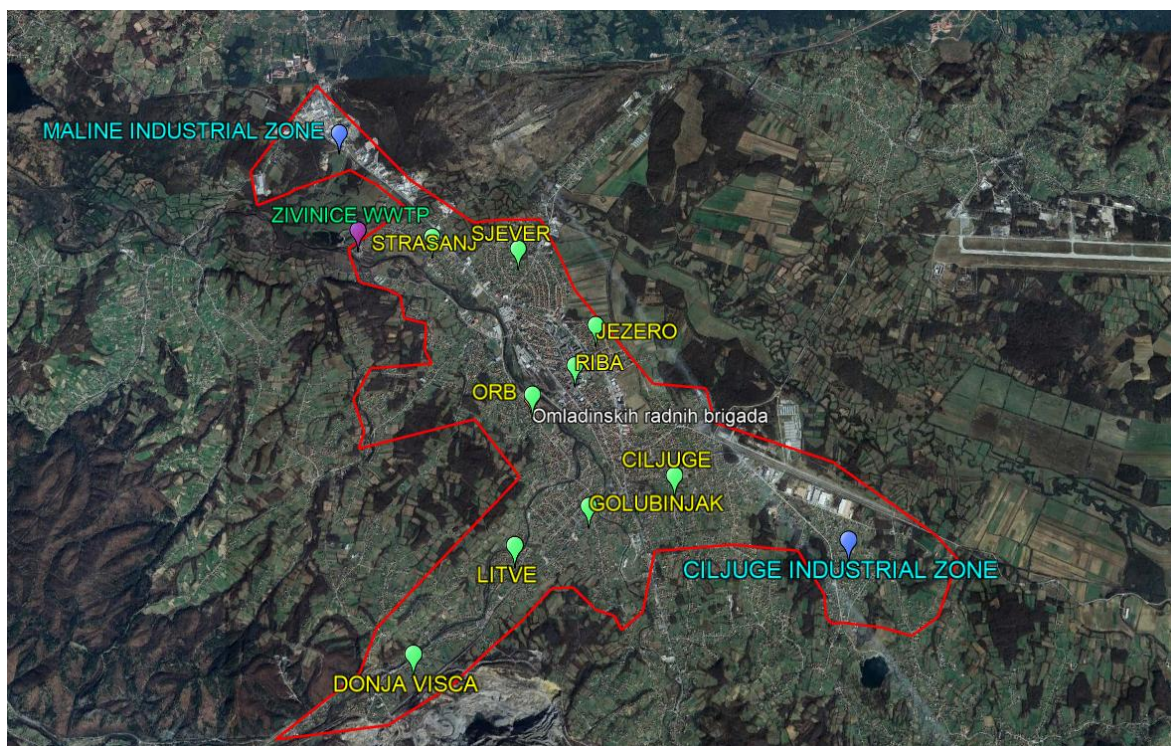


Figure 2: Scope of the planned sewerage network reconstruction and extension

Wastewater treatment. The Project includes the construction of a small packaged wastewater treatment facility within the Maline Industrial Zone. The facility is planned with a treatment capacity corresponding to the wastewater load generated by approximately 1,500 people. It will treat sanitary/domestic-type wastewater from the Maline area, while industrial operators generating process wastewater are required to provide pre-treatment before discharge, in line with applicable legislation. Additionally, a set of spare parts for the existing WWTP will be procured within the Project, to enable timely response in case of breakdowns and ensure that treated water discharged into the Oskova River meets quality standards prescribed by entity and EU legislation.

3 ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

Project benefits. The Project offers a wide range of notable benefits, which will primarily manifest during its operational phase. These benefits include a substantial reduction in water losses, the replacement of asbestos-cement water supply pipelines ensuring worker and public safety during maintenance activities, and a positive impact on climate change by lowering greenhouse gas emissions through reduced electricity requirements for water pumping and improved wastewater management.

The City of Zivinice is increasingly affected by climate-related challenges, particularly periods of drought and water shortages during summer months, as well as heavy rainfall events that can result in urban flooding and disruption of daily activities. Climate change projections indicate that such events are likely to become more frequent and more intense in the future.

Considering this, the Project benefits are particularly significant, as many of the proposed investments directly contribute to strengthening the resilience of Zivinice's water and wastewater services to the impacts of climate change. Specifically, separation of the combined sewerage system will reduce the risk of urban flooding and decrease the likelihood of untreated wastewater being discharged during periods of heavy rainfall. By reducing water losses and improving system efficiency, the Project will also contribute to adaptation to droughts and water scarcity, as smaller quantities of water will need to be abstracted from water sources to meet the same level of demand, reducing pressure on available water resources during dry periods.

The Project will also connect new consumers to the expanded water supply and sewerage network, reduce discharge of untreated wastewater through the new treatment unit in Maline, lower the risk of surface water quality degradation through improved WWTP maintenance and faster repair in case of malfunctions and improves customer satisfaction with more reliable service. A more reliable water supply system may also support local industries and businesses. Additionally, during the construction phase, there are opportunities for temporary employment for the local workforce, skill development for local workers and potential engagement of local subcontractors.

A summary of E&S impacts and risks during the construction and operation/maintenance (O&M) phases is provided below, followed by measures to be put in place to mitigate any such impacts/risks.

Pre-construction. Based on the developed Preliminary Designs for the water supply and wastewater networks, certain sections of the proposed water supply and wastewater infrastructure, together with associated facilities (such as manholes, inspection chambers, oil and grease separators, pumping stations and other ancillary infrastructure), will be located on privately owned land. Depending on the type of infrastructure and the extent of land required, land acquisition will be carried out either through complete expropriation¹, where permanent acquisition of land is required (e.g. for pumping stations, separators, inspection chambers and other ancillary structures) or through incomplete expropriation², by establishing permanent easement rights for underground water supply and wastewater pipelines. Therefore, a Land Acquisition and Resettlement Plan will be prepared by the City and implemented in accordance with national legislation and EBRD requirements.

¹ Complete expropriation means that the City permanently acquires ownership of a piece of private land needed for Project infrastructure. The previous owner no longer owns that part of the land and receives compensation.

² Incomplete expropriation means that the land remains privately owned, but the City obtains a permanent right to use part of it for specific Project purposes. The owner keeps the land, but some restrictions may apply, for example not building permanent structures or planting deep-rooted trees over the pipeline route. The owner receives compensation for the restrictions and any affected assets.

Construction. Temporary impacts and risks, commonly associated with construction activities, such as increased dust and noise, potential spillages of chemicals, oil derivatives, wastewater and other hazardous materials are expected within the construction sites.

Works near the Oskova and Spreca rivers may also result in temporary sediment runoff or groundwater inflow if not properly managed. In addition, more extensive excavation works for the installation of the treatment unit in Maline may affect groundwater and soil quality.

During the construction phase, various waste types will be generated, including: excavation materials, construction debris, demolition waste, as well as hazardous (asbestos-containing) and municipal waste. Effective management of these waste materials will avoid water and soil pollution at construction sites.

Workers may encounter various health and safety hazards during construction, including dust, noise, vibrations, falls and land destabilisation during trench excavation, vehicular accidents, works near traffic and the railway line, exposure to extreme weather conditions and potential encounters with underground utilities. The reconstruction of stormwater drainage pipelines crossing the railway will require consent from the Railways of FBiH, as rail traffic must be temporarily halted for worker safety.

Excavation works may affect previously unrecorded archaeological or historical remains, if encountered during construction.

Additionally, as elaborated in the previous chapter, the majority of construction and reconstruction works will be carried out in the urban centre of Zivinice – an area with numerous small business facilities such as shops, cafes and restaurants, as well as in suburban and peri-urban settlements and industrial areas, including Donja Visca, Dubrave, Maline and Ciljuge. Therefore, during construction activities, small businesses (formal or informal), industrial facilities and service providers may experience temporary disruptions that hinder customer access and normal business operations if access points are obstructed by construction materials or equipment, or if safety measures require a temporary perimeter around the work area.

Operation and Maintenance (O&M). Negative impacts in the O&M phase are primarily linked to pipeline network maintenance, and operation and maintenance of the wastewater treatment unit in Maline and central WWTP. These impacts are similar to those encountered during the construction phase, such as increased dust, machinery emissions, noise and waste generation, but at a smaller and more localised scale. Furthermore, if the Project infrastructure is not properly managed, the anticipated benefits of improved wastewater treatment and reduced water losses could be undermined, and localised impacts on surface water, groundwater, air or soil quality could occur.

The identified negative E&S impacts are site-specific and can be effectively avoided, reduced or remedied. Appropriate measures have been developed to address these impacts during both construction and operation of the Project. Based on these measures, construction contractors will be required to prepare and implement plans describing how environmental and social risks will be managed during the works, while the Company will develop similar arrangements for the operational phase. The PIU will oversee the implementation of specified mitigation measures.

4 COMMUNICATIONS

A **Stakeholder Engagement Plan (SEP)** has been developed to identify relevant stakeholders, define stakeholder engagement methods and objectives and establish a Project-specific grievance mechanism.

The PIU will disclose this NTS, the Environmental and Social Management Plan, the Land Acquisition and Resettlement Framework, the future Land Acquisition and Resettlement Plan, the SEP and the Project Grievance Form as early as possible in the Project development process. These documents will be available in one of the official languages in BiH (as well as English where available), both in electronic and printed forms at:

NAME OF INSTITUTION	WEBSITE	ADDRESS
Public Company "Vodovod i kanalizacija d.o.o." Zivinice (the Company)	https://vikzivinice.ba	Strasanj bb, Zivinice, BiH
City of Zivinice	https://gradzivinice.ba/	Alije Izetbegovica 28, Zivinice, BiH

The PIU will schedule and hold the following meetings with stakeholders as follows:

- > **One public meeting after the Main Designs are developed** – to present the Project to the public and offer a clear understanding of the Project's scope and objectives. This meeting will also serve as an opportunity for stakeholders to provide feedback; and
- > **One public meeting prior to start of construction** – to present the detailed plan of the Project to stakeholders, including information on expected duration of construction works, the available Project-specific grievance mechanism, alternate routes and any other relevant Project specifics. The meeting will also provide an opportunity for affected persons and businesses to discuss practical concerns related to access, land use, business operations, agricultural activities, emergency access and other construction-related issues.

During these meetings, the PIU will pay particular attention to: 1) explaining potential land-related impacts of the Project, 2) encouraging local businesses to voice their concerns, expectations and suggestions, 3) discussing and clarifying compensation mechanisms available for any temporary income losses.

As needed, the PIU will organise **separate small group discussions** and will identify whether any further specific assistance may be needed to ensure that any vulnerable groups or individuals are not excluded from or unable to participate fully in the consultation process.

The PIU will inform all stakeholders about the exact date, time and venue where the meetings will be held 10 days in advance through the following channels:

- > official website of the City of Zivinice, as well as the website of the Company
- > announcements posted in: (i) Zivinice City Hall, (ii) bulletin boards of local community offices in the Project area: Maline, Litve, Oskova, Rudar, Donja Visca, Zivinice Centre and Dubrave

- > local media and newspapers in wide circulation in Zivinice (e.g., web portals Zivinice.ba, Zivinice Carsija, Tuzlanski.ba, TV stations RTV Zivinice and RTV Slon, daily newspapers such as Dnevni Avaz, Dnevni List or Oslobodjenje)
- > the City of Zivinice's Facebook page: <https://www.facebook.com/GradZivinice/>

The PIU will also provide **information to the public regarding planned construction works**. This includes specifics about the locations, anticipated commencement date, expected duration of planned works and any predicted disruptions in traffic flows and any other potential inconveniences to the public at least 30 days before start of works through channels listed in the SEP. Once construction starts, information boards will be placed by the contractors at construction sites to clearly display contact information for third-party concerns.

In addition, **written notifications will be sent by the PIU to the following schools in the urban zone of Zivinice** to inform them about the start of Project works and request the schools to inform the students about safety aspects: 1) Elementary school "Prva osnovna skola Zivinice", 2) Elementary school "Druga osnovna skola Zivinice", 3) High school "Mjesovita srednja skola Zivinice", 4) Private preschool institution "Mery Isabel" Zivinice, 5) Public preschool institution "Djecije obdaniste" Zivinice, 6) Private preschool institution "Richmond Park International".

Furthermore, the PIU will **send written notifications about planned works to representatives of religious and cultural facilities**: 1) Mosque of the Islamic Centre of Zivinice, 2) Catholic Church of St. John the Baptist, 3) Chapel of St. Anthony of Padua, 4) Ciljuge Mosque, 5) Bosnian Cultural Centre.

A Project-specific grievance mechanism has been set up a process for receiving, evaluating and addressing grievances from affected communities. The PIU will implement the grievance mechanism to ensure that it is responsive to any concerns and complaints particularly from affected communities. A detailed explanation of the mechanism is provided in the SEP.

Contact information for sending grievances:

ZIVINICE WATER SUPPLY AND SEWAGE NETWORK RECONSTRUCTION PROJECT

Project Implementation Unit

Attention: Head of the Department for Municipal Services of the City of Zivinice

Alije Izetbegovica 28, Zivinice, Bosnia and Herzegovina

Tel. +387 35 743 323

E-mail: TBA

