Environmental and Social Management Plan (ESMP)

for the

”Expansion of the Water Treatment Capacities in Letnica, Viti Municipality”

Prepared under

Fostering and Leveraging Opportunities for Water Security -FLOWS

December 2024

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ABBREVIATIONS

AC	Asbestos Cement
BoQ	Bills of Quantities
CoC	Code of Conduct
E&S	Environmental and Social
EHS	Environmental, Health, and Safety
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
FLOWS	Fostering and Leveraging Opportunities for Water Security
GBV	Gender Based Violence
GM	Grievance Mechanism
GRM	Grievance Redress Mechanism
HDPE	High-density polyethylene
MSDS	Material Safety Data Sheet
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
PE	Polyethylene
PPEs	Personal Protective Equipment's
PMT	Project Management Team
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
WB	World Bank
WTP	Water Treatment Plant

SUMMARY

Table 1: Summary sheet

Name of the subproject:	'Expansion of the Water Treatment Capacities in Letnica, Viti Municipality'
Subproject specification:	Expansion of the capacities for water treatment in the Water Treatment Plant in Letnica, municipality of Viti
Subproject location:	Letnica village, Viti municipality
Beneficiaries:	Inhabitants of the Viti municipality
Sector and type of subproject:	Water sector Water treatment
Implementing of the subproject:	RWC 'Hidromorava' FLOWS/PMT
Implementation modality:	Directly implemented by RWC 'Hidromorava' through Contractors
Size of the subproject:	1700 m^3 water reservoir 60 l/s water treatment capacity
Estimated Cost of subproject:	EUR 6 million
Field Visit (Yes/No; Include Date):	Yes May 2023, June 2024, October 2024, December 2024
Was Consultation Carried out? (Yes/No):	Yes Public hearing 08 May 2024 on expropriation Public discussion 30 September 2024 on EIA report
Proposed Class of sub-project (Low to High):	Moderate

1. INTRODUCTION

The Environmental and Social Management Plan (ESMP) for the "Expansion of Water Treatment Capacities in Letnica, Viti Municipality" has been developed in compliance with the Environmental and Social Management Framework (ESMF) of the Fostering and Leveraging Opportunities for Water Security (FLOWS) Program and the World Bank's environmental and social standards.

Given the scope of activities, technical specifications, size of the affected area, social and potential environmental impacts during construction and operation, these activities of the project, upgrade of the drinking water treatment facility in Letnica village has been classified as a moderate-risk.

This ESMP was prepared by the detailed design firm, at the request of RWC Hidromorava and with support from the FLOWS program. It is specifically designed for these specific activities, to enhance the water supply reliability, improve the quality and quantity of water supply in Viti municipality, managed by Hidromorava Company. ESMP outlines the measures to be taken to mitigate the adverse environmental impacts of a project activities for all phases, during its construction, operation, and decommissioning phases.

This document complies with the World Bank's Environmental and Social Framework (ESF) and Kosovo's environmental and social laws and regulations.

The subproject for the "Expansion of Water Treatment Capacities in Letnica, Viti Municipality" involves civil works, necessitating adherence to ESS1 (Assessment and Management of Environmental and Social Risks and Impacts).

Given that the project will involve contractor and workers, ESS2 (Labor and Working Conditions) will also be applied.

The generation of waste from work activities, calls for the application ESS3 (Resource Efficiency and Pollution Prevention and Management).

Moreover, the use of equipment and activities may expose the community to risks, thus requiring the implementation of the ESS4 (Community Health and Safety) to address the health and safety risks and impacts on the community, effectively.

Furthermore, open and transparent engagement with the subproject's stakeholder is an essential element of good international practices, therefore, ESS10 (Stakeholder Engagement and Information Disclosure) will be applied to ensure the environmental and social sustainability of the subproject, enhance acceptance and make a significant contribution to successful design and implementation throughout the subproject life cycle.

ESS5 is applicable to this subproject because it involved the expropriation of a private property. Specifically, the expropriation process was limited to a single parcel of land. It is noteworthy that this process did not result in any displacement of individuals or households, nor did it adversely impact livelihoods. The expropriation was carried out in accordance with Kosovo's legal framework, the Resettlement Policy Framework (RPF) for the FLOWS Project, and the World Bank's ESS5. Although the rightful owner of the parcel could not be identified during the process, the compensation for the expropriated land was determined at full replacement cost. In compliance with Paragraph 15(c) of ESS5, the compensation amount was deposited into an escrow account, ensuring that funds are available and safeguarded until the rightful owner is identified. This approach aligns with the principles of fairness,

transparency, and procedural integrity, as outlined in ESS5, and ensures that the rights of the affected party are protected while maintaining the project's compliance with both national and international standards.

In addition, ESS6 is relevant as the construction of the water treatment plant will involve site clearing, resulting in the loss of green areas.

The ESS7 and ESS9 are not relevant because there are no indigenous peoples, in the subprojects' area, and the subproject does not involve any financial intermediaries that may be affected and have relationships in the subproject.

While there are no cultural heritage areas near the project site, ESS8 remains relevant to this project due to its involvement in excavations and earth movements. A management approach is necessary for any chance findings related to the project, ensuring their proper handling and documentation.

As a result, the subproject is obliged to comply with the Labor Management Plan (LMP) regarding labor working conditions and Occupational Health and Safety (OHS) standards to address any related issues. Additionally, the Stakeholder Engagement Plan will be followed for consultation and information disclosure.

Furthermore, it is important to note that the Environmental and Social Management Plan (ESMP) will be disclosed, disseminated to stakeholders and made available on the websites of FLOWS, RWC 'Hidromorava' the World Bank and Viti Municipality.

2. SUBPROJECT DESCRIPTION

2.1. Overview

This sub-project for the "Expansion of the Water Treatment Capacities in Letnica, Viti Municipality" is a component of the Fostering and Leveraging Opportunities for Water Security (FLOWS[1]) Program, funded through a credit from the World Bank.
It falls under Sub-Component 2.2 - Investments in Water Infrastructure and Services Addressing the Water Crisis, which is part of Component 2 - Addressing Water Crisis with Catalytic Investments.

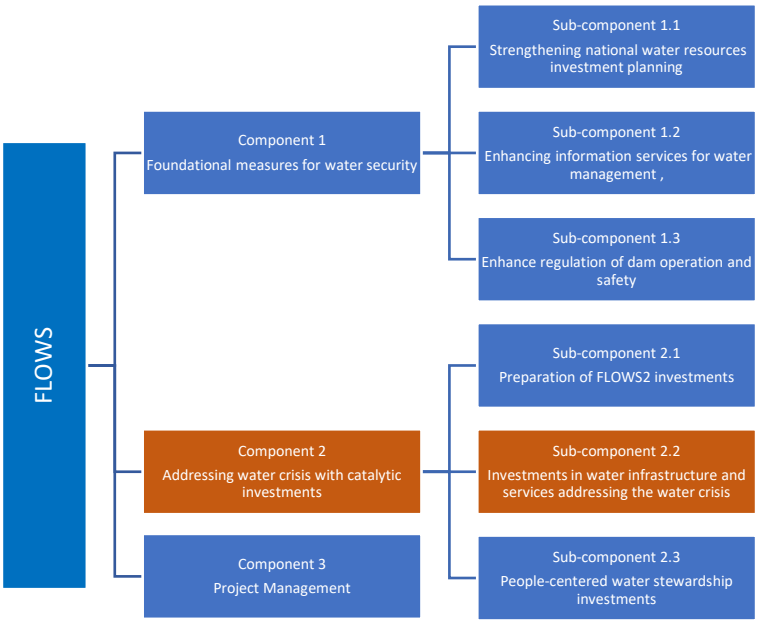


Figure 1. FLOWS components and subcomponents

The beneficiary of this subproject is the Regional Water Company 'Hidromorava' a joint-stock company, established on 2007, responsible for managing and operating water and wastewater systems in the Anamorava region.

RWC 'Hidromorava' oversees operations through its three units located in Gjilan, Viti, and Kamenica. Specifically, Viti unit covers the municipality of Viti, Kamenica unit serves the municipality of Kamenica, while the Gjilan unit serves the municipalities of Gjilan, Ranilug, Novo Berd, and Partesh.

This subproject, referred to as the "Contract," focuses on expanding the water treatment capacity of the Water Treatment Plant in Letnica, located in the Municipality of Viti.

The water supply system in Viti requires increased treatment capacity at the Letnica plant, which provides treated water to the town of Viti, the villages along the main water supply line, and the settlements on the outskirts of the city.

[1] https://www.mit-ks.net/repository/docs/2020_03_24_170402_KOSOVO_ESMF_19032020__final_2.pdf

2.2. Location

The subproject under this ESMP is, located in Letnica village, municipality of Viti.

Letnica village is located near the North Macedonia border, close to a place called Black Mountains or Montenegro of Skopje.[2] The village is crossed by a river of the same name, which flows from the mountains, contributing to Letnica's calm and relaxing environment. The village has a population of 267 inhabitants.

The project site is located 1 km from the center of Letnica village. It is approximately 2 km northeast of the village of Stublla e Eperme, while 2 km to the east lies the village of Vernez. A restaurant is situated in the vicinity of the project site, whereas an old, non-operational abandoned textile factory is located on the other side, also nearby.

The subproject location is connected through local road leading to the village Letnica.
The geographical coordinates of subproject site is presented in Table 2.

Table 2:The geographical coordinates of subproject

	Cadastral zone	Municipality	Place	N	E	Altitude
1	Letnica	Viti	Raiqa Njiva	42°18'24"	21°26'50"	580 – 590 m

Figure 2. Project location in relation with the Kosovo and Municipality of Viti

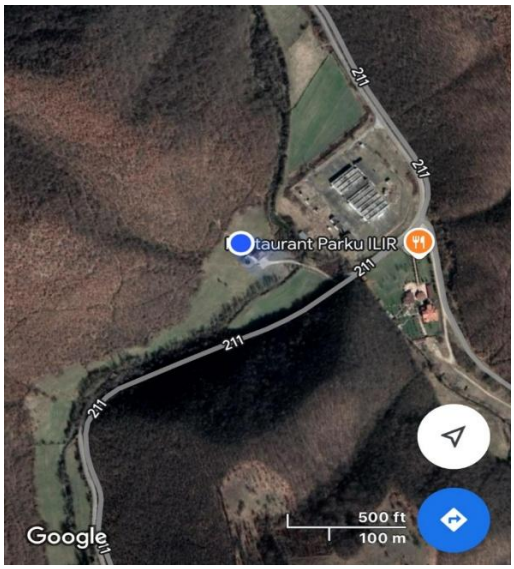


Figure 3. Areal view - Position of the project location (in blue dot)

[2] Mali i Zi i Shkupit in Albanian or Skopska Crna Gora in Serbian and Croatian

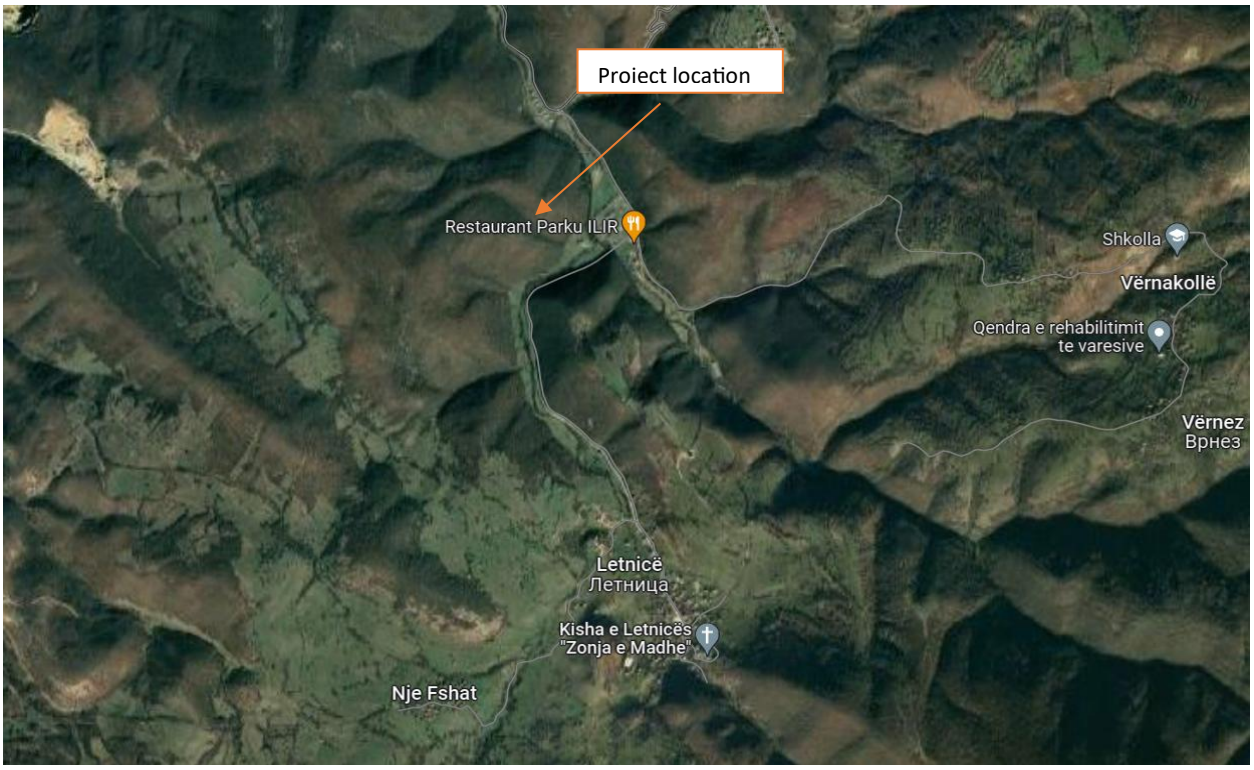


Figure 4. Micro location of the WTP in relation with the village Letnica

2.3. Existing situation of the targeted area

2.3.1. Water infrastructure

The Municipality of Viti has prioritized the expansion of its water supply capacity to meet the drinking[3] water needs of its residents.

In the city of Viti, 95% of the population is connected to the public water supply network. However, rural settlements experience a significantly lower connection rate, with only 35% of their population having access to the drinking water network. The remaining rural population relies on water from shallow and unprotected wells.

Despite the fact that 95% of the urban population is connected to the public water supply network, this system is not without problems. Some neighborhoods of the city, due to the Letnica reservoir insufficient capacities, face supply reductions that last up to 8 hours a day. These reductions, among other things, are also a result of large technical and administrative losses in the water supply system. Beside Viti city, the settlements that are supplied with water are Ramnishta, Letnica, Skifteraj, Bince, Begunce, Terpeze, Pozharan, Zhiti, Dobresh.

[3] Strategjia Zhvillimore Lokale 2023-2028 GLV -Vitia- by ESG - Economic Support Group - Issuu

Water sources

The city of Viti, with a population of 8,000 residents, is supplied with water from three sources:

- Letnica Spring (Capture)
- Pozharan Well 1 (Underground Source)
- Pozharan Well 2 (Underground Source)

Out of 39 villages in the municipality of Viti:

- 10 villages have a water supply system;
- 6 villages have a water supply system under construction
- 23 villages do not yet have a water supply system

The WTP Letnica which is the main source of drinking water supply for the city of Viti, dates back to 1970 with a small water production capacity 20-25 l/s, meeting the needs of that time. In 2002 the plant was renovated and equipped with modern electrical technology funded by the Swiss government through the donation valued 1.4 million CHF. Major improvements included the installation of the filtration system, the finalizer, the chemical dosing system and the laboratory for monitoring treated and untreated water.

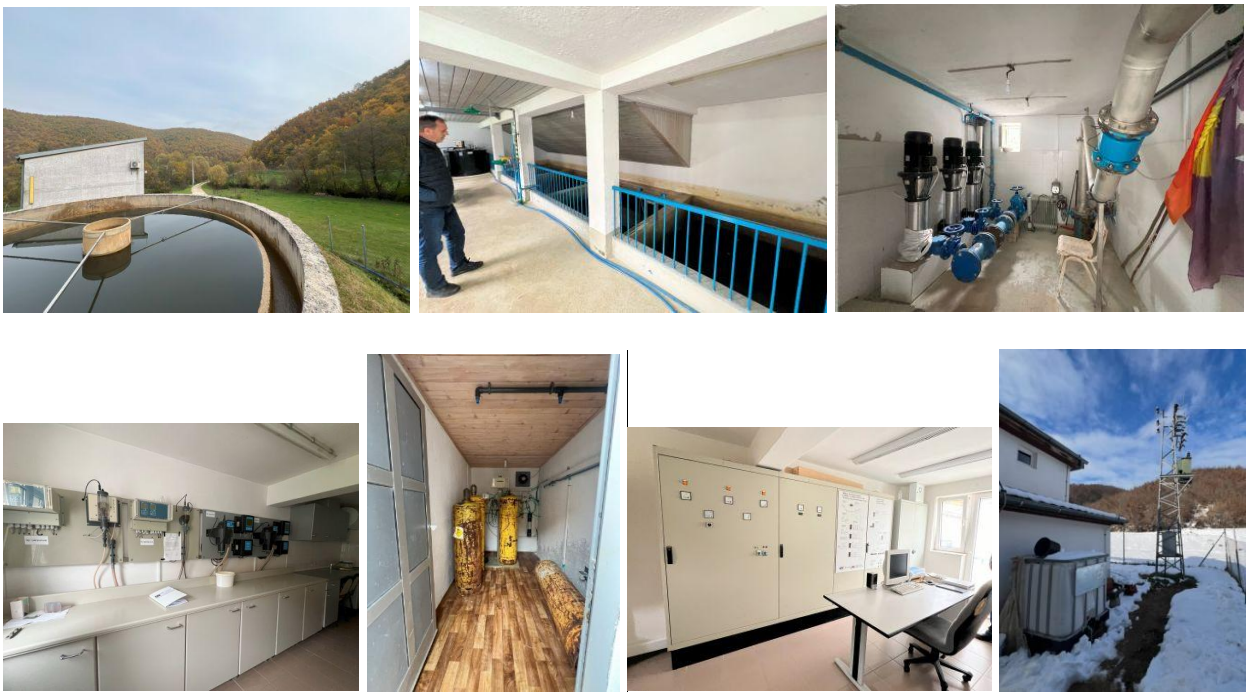


Photo 1. Existing WTP

The city of Viti features a combined water distribution network with a main ring surrounding the city center. Approximately 75% of pipelines are made of polyethylene (PE), while older segments are constructed from steel and asbestos cement (AC) materials. In rural areas, pipeline diameters range from 40 mm to 160 mm, while in the city of Viti, larger diameters of up to 250 mm are utilized to support higher demand.

Within the city, there are a total of 1,550 customers, of whom 1,130 are georeferenced. The GIS system contains detailed data for each georeferenced customer, including total annual water consumption for 2022.

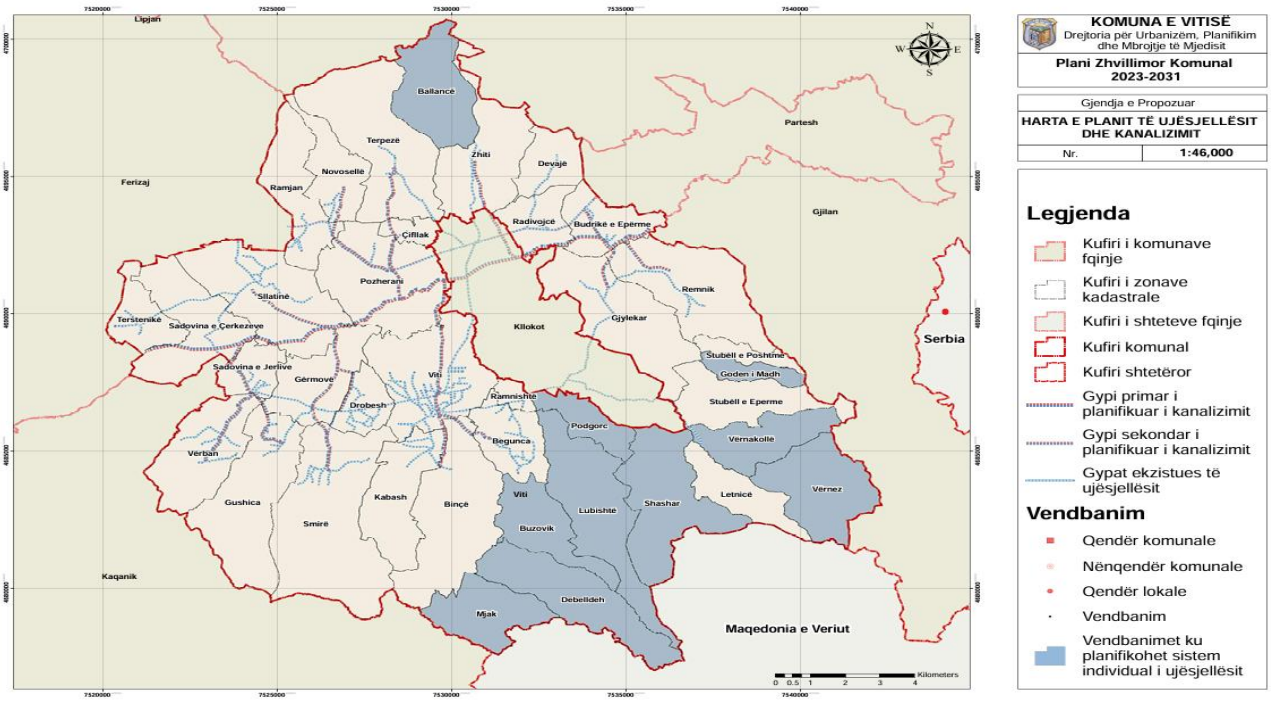


Figure 5. Map of the water supply and sewage plan according to the Municipal Development Plan for 2023-2030[4]

2.4. Planned activities for the new water treatment plant

2.4.1. Components of the new water treatment plant

Expanding the capacity of the drinking water treatment plant (WTP) in Letnica, Viti, is a critical initiative to address the region's water supply challenges. The project benefits not only the city of Viti but also villages along the main water pipeline and those on its outskirts.

Currently, water from the Letnica River is transported by gravity to the WTP, which operates with a limited capacity of 20 l/s. This limitation, coupled with challenges in maintaining efficiency during periods of high turbidity (NTU) and significant water losses in the supply system, has resulted in an inadequate water supply for many consumers in the municipality.

Several villages remain unconnected to the central water supply system as RWC Hidromorava cannot accommodate additional demand. The project aims to increase the treatment capacity and operational reliability of the Letnica WTP, improving treatment efficiency and enabling the connection of unserved villages. This expansion will also enhance the financial sustainability of the water supply system by increasing the number of users.

The planned upgrade is designed to meet the water needs of Viti and surrounding settlements, including Gercar, Verboc, Mogille, Smire, Verban, Ramnishte, Drobesh, Germova, Stubla, Podgorce, and Gushica,

[4] Hartat-e-Planit-sipas-PZHK-se.pdf

with a total projected demand of 75 l/s by 2045. Part of the settlements that are connected and are planned for future connection, are situated in the municipality of Viti, as well as Klokot. The settlements: Drobesh, Germove, Gushica, Podgorce, Ravnishte, Smire, Stublla e Eperme, Stubell e Poshtme, Verban, Viti are located in municipality of Viti, while the settlements: Gerncar, Mogille and Verboc, are located in municipality of Klokot.

The existing WTP will continue processing 20 l/s, while the new WPT will handle an additional 55–60 l/s. This capacity aligns with the supply pipeline's maximum flow from the Letnica River, which is 80 l/s.

Treated water will be stored in a newly planned reservoir with a 1700 m^3 capacity, situated near the two WPTs. From there, the water is intended to be transported to end users through the existing HDPE DN315 pipeline, which was recently constructed.

The new Water Treatment Plant will consist of the following components:

- Connection manhole for linking the new WTP with the existing pipeline.
- Distribution pipeline to the lamella settler.
- Lamella settler for primary sedimentation to remove suspended solids from raw water. It is located near the new WTP, designed to serve both the existing and new WTP, with a total flow capacity 80 l/s, from the intake structure.
- A pipeline connecting the lamellar settler to the new WTP.
- New WTP station designed for 60 l/s with all the necessary facilities for normal station operation including open rapid sand filters.
- New reservoir with a capacity of 1700 m^3 that accepts treated water from both WTPs, the existing and new one.
- Filter backwash water within the new reservoir,
- A pump for filter backwash cleaning process within the new reservoir W=1700 m^3
- Sludge sedimentation tank to handle and treat sludge generated during filtration process.
- Pipeline that will connect the outlet of treated water from the new WTP with the existing main pipeline to municipality Viti. The capacity of the supply pipeline is approximately 80 l/s, while existing WTP is designed for a capacity of 25 l/s.
- Measuring and regulation manholes.
- Drainage system.
- Water disposal system from filter and lamella settler cleaning process
- Sanitary wastewater system with a Sequencing Batch Reactor for treating water generated in the facility.

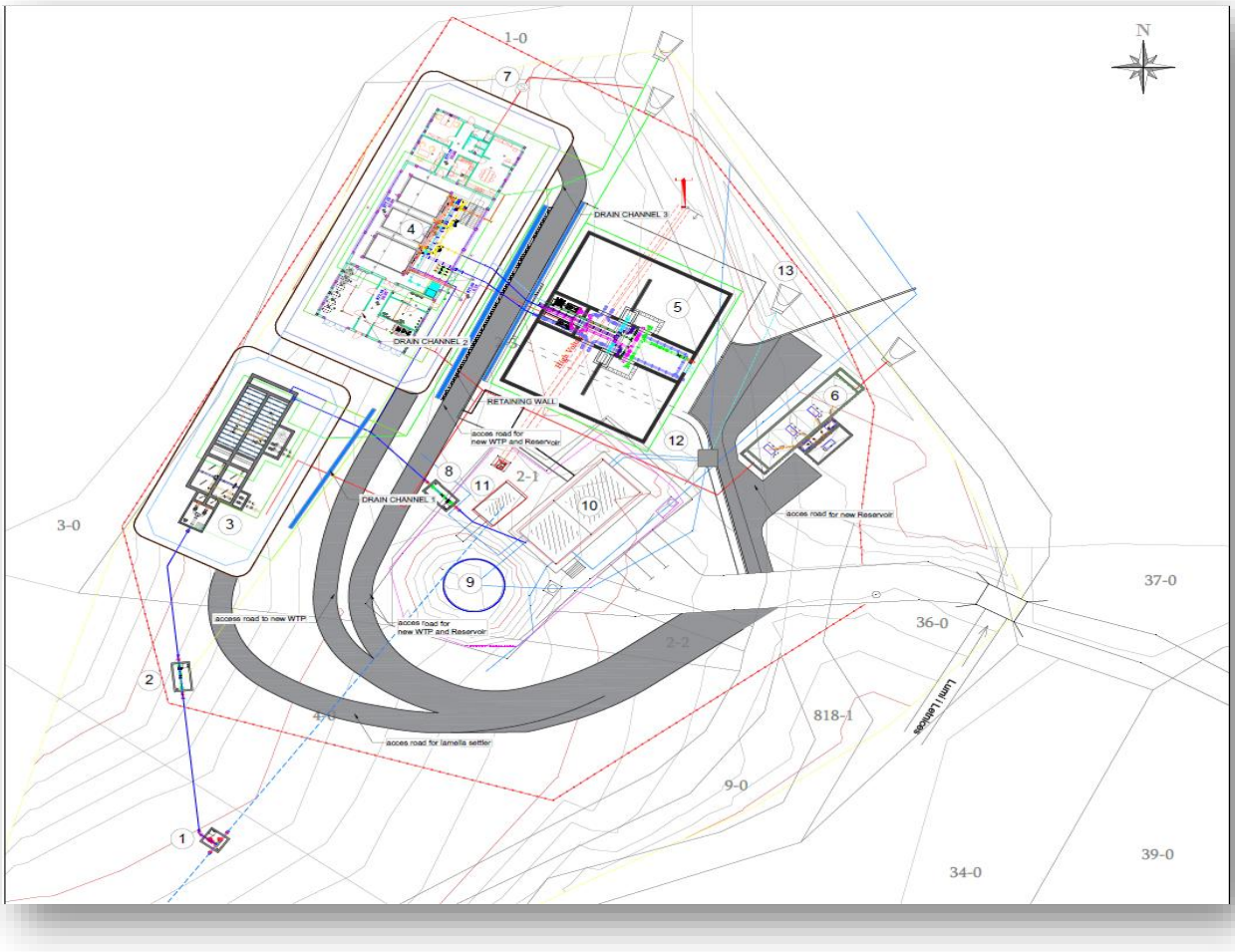


Figure 7. General layout of the existing and newly planned WTP with appurtenant structures-orthopho map 1: 500

No	STRUCTURE
1	CONNECTION MANHOLE
2	FLOW CONTROL AND MEASURING MANHOLE - PIPELINE FROM CONNECTION MANHOLE TO LAMELLA SETTLER
3	LAMELLA SETTLER capasity 80 l/s
4	NEW WTP capacity 60 l/s
5	NEW RESERVOIR W=1700 m^3
6	SLUDGE SETTLER
7	ASP
8	WATER METER AND NEDLLE VALVE MANHOLE PIPELINE FROM LAMELLA SETTLER TO EXISTING WTP
9	EXISITING PRIMARY SETTELMENT TANK
10	EXISTING WTP DESIGN CAPACITY 25-27 L/S
11	OFFICE ROOM 1ST FLOOR, CHLORIATION ROOM
12	EXISTING MANHOLES
13	EXISTING OUTLET STRUCTURE

Legend:

- new main pipeline - raw water
- treated water from new WTP
- drainage network
- sewage water from filter backwashing water and lamella settler
- sanitary sewage water system
- fire protection and service water network
- stormwater network
- existing water supply system
- existing fence
- new fence
- Retaining wall
- Drain channel
- Discharge to river
- Flow direction

Photo 2. *Current state of the location planned for construction of the new Water Treatment Plant*

2.4.2. Nature of the works

The construction and expansion of the WTP involve preparing the site through land clearing, excavation, and grading. Concrete foundations and reinforced structures will be installed to support tanks and pipelines. The work includes setting up filtration systems, lamella settlers, and reservoirs while also laying pipelines for water transport and drainage. Additionally, mechanical and electrical systems, including pumps and automation control SCADA, will be installed.

Construction and equipment installation activities will include but not limited to:

Preparatory Works

- ✓ Site preparation:
  - Clearing and leveling approximately 1500 m² of land for the foundation and facilities.
  - Establishment of temporary access roads with a compacted gravel layer for heavy machinery and material transport.
- ✓ Marking and plateau preparation:
  - Site marking includes exact placement for foundations and facility boundaries using laser survey tools.
  - Plateau compacted with a 98% Proctor compaction ratio, ensuring uniform stability.

Earthworks

- ✓ Excavation:
  - Mechanical excavation of soil V category – and dispose in the construction pit proximity for backfill use and transport excess material to the approved site landfill.
  - Trenches for pipelines: Width 1.1 m, depth up to 2.5 m.
  - Foundation pits: Precision excavation with tolerances of +/- 2 cm for structural stability.
  - Excavated material reused for backfilling (up to 60%) and excess transported to an authorized landfill.
- ✓ Foundation substrate:
  - A 60 cm crushed stone cushion, compacted in layers of 30 cm, beneath foundations and slabs.
  - Geotextile (200 g/m²) placed over stone cushions to prevent soil erosion and contamination
  - Backfilling of soil around foundation walls, with compaction in layers of 20 cm to the required soil compaction, using material deposited at the site.

Concrete Works

- ✓ Foundation and structural elements:
  - Concrete Class C30/37 for high-load structural elements, including walls, slabs, and beams.
  - Sub-base slabs of 10 cm thickness with concrete Class C20/25 for light load areas.
  - Waterproof concrete used in chambers exposed to wet conditions.
- ✓ Formwork and finishing:
  - Waterproof chipboard formwork for walls and beams to ensure precision and smooth finishes.
  - Concrete curing for 7 days to achieve required strength, with vibration applied during pouring to eliminate air voids.
- ✓ Slope and drainage works:
  - Concrete slopes constructed with thicknesses between 4 cm and 10 cm for effective water drainage.

Reinforcement Works

- ✓ Reinforcement steel (RA 400/500-2):
  - Bars for foundation walls and slabs: Ø 8 mm for secondary reinforcement. Ø 12 mm and Ø 16 mm for main load-bearing elements.
  - Fabrication includes transport, cutting, bending, and tying on-site using rebar tying tools.
  - Quantities: Estimated reinforcement steel usage varies from 234 kg to 716 kg per section, tailored to structural loads.

Pipeline Works

- ✓ Pipeline dimensions and materials:
  - Treated water pipelines: HDPE DN315.
  - Raw water pipelines: Steel DN200, insulated and protected against corrosion.
  - Drainage pipelines for sludge and wastewater: PVC DN150 and DN200.
- ✓ Installation techniques:
  - Bedding: Sand layer of 10 cm thickness placed below pipes.
  - Backfill: Compacted in 30 cm layers above pipelines using mechanical compactors.
  - Signal stripes placed 50 cm above pipelines to mark their locations.

Sewage and Waterproofing

- Sewage system: Construction of internal pipelines connected to a Sequencing Batch Reactor (SBR)

for wastewater treatment.

- Waterproofing: Internal surfaces treated with rigid cementitious waterproofing (2 mm thickness) suitable for contact with potable water.

Mechanical Installations.

- Mechanical works: Installation of lamella settlers, rapid sand filters, and sludge sedimentation systems; Integration of backwashing pumps for efficient filter maintenance.

Other Works

- ✓ Gypsum and plastering: Application of gypsum plaster for internal walls with a thickness of 1–2 cm, ensuring a smooth finish.
- ✓ Insulation: Styrodur 5 cm rigid panels for thermal insulation of chambers and tanks.
- ✓ Metal Works: Fabrication of metal frames and supports for structural components such as tanks and filter units.
- ✓ Roofing: Installation of watertight roofing membranes and galvanized sheet metal components.
- ✓ Painting and facade works; Flooring works; Ceramic works; PVC carpentry- PVC doors, windows

Masonry works

- Procurement of material, transport and masonry of facade walls d=25 with hollow ceramic block in extended mortar. Masonry should be with anchors for stiffening and installation of reinforced concrete lintels MB30 (horizontal and vertical)
- Supply of material, transport and production of cement

2.4.3. Technological Process

The new WTP will incorporate a technologically advanced process to ensure high-quality drinking water. The quality will be continuously monitored through process instruments and laboratory analyses, including physical, chemical and bacteriological testing, in compliance with national laws and regulations.

The technological solution for the purification of raw water to drinking water consists of the following phases:
The process line includes the following elements:

1. System for regulation of raw water supply
2. Pre-chlorination
3. Coagulation and flocculation process
4. Sedimentation in a lamellar settler
5. Water filtration process
6. Water disinfection
7. Final water regulation system

1. The system for regulation of raw water supply is used to regulate and register the flow.
An electromagnetic flow meter DN 250, will be placed at the entrance treatment plant. The optical signal from this flow meter will be transferred to the control room, in l/s and in cumulative m^3.

2. *Pre-chlorination*

The pre-chlorination will be performed in the supply pipeline before entering the lamella settler. The quantities of chlorine to be dosed will be according to the national laws and regulations. The chlorination will be performed by gas chlorination. The objects of the chlorination station are as follows:

- Chlorine containers;
- Vacuum regulators;
- Rotometers;
- Ejector;
- Analyser for measuring of the residual amount of chlorine in the water;
- Control unit through which chlorine dose regulation is performed in the final automatic chlorination;
- Water distribution pumps, valves, faucets;
- Neutralization of chlorine;
- Fans;
- Analyzer for measuring chlorine in air located in the room for chlorine tanks.

3. The next stage is coagulation and floculation

The **coagulation** will be done using coagulant aluminum sulfate or polyaluminum chloride. Dosing of the coagulant takes place in the rapid mixing chamber. Rapid mixers with a fixed number of revolutions of 160/min are provided in each of the coagulating tanks. Dosing of the coagulants is provided directly in the tanks. The retention time in the coagulation tanks is 40s. Dosing of the coagulant is performed with dosing pumps equipped with a frequency regulator.

Flocculation is performed by dosing an anionic type polyelectrolyte. The usual dosage range for polyelectrolytes is from 0.1 mg/l to 0.5 mg/l, with a maximum dose of 1.0 mg/l.. It is dosed with 2 dosing pumps, equipped with a frequency regulator, (one working, and one backup). Both automatic and manual mode of operation will be introduced. The automatic mode is based on the measured value of the raw water inlet, where a certain amount of polyelectrolyte would be dosed according to a table, while manual mode is based on the percentage of pump dosing from 0-100%.

4. Sedimentation

Due to the high turbidity that reaches the filter fields, as well as based on the water quality analysis, which shows that the turbidity is greater in the primary settler, a ***lamellar settler*** is planned, which will increase the purification efficiency. This settler will be used both for the existing and the new WTP. The sedimentation of the previously formed flocs takes place in the lamella-type settler.

The lamella settler maximum design capacity is 80l/s. It is divided into two parts that will work independently with a capacity of 40l/s. Each of these two lines has two pre-chambers, in which are placed slow mixers with a variable number of revolutions from 0-90 per min. They are used for slow mixing of the coagulant and flocculants. The water then enters the settlement part. In the upper part the lamella settler is equipped with lamellas. Drainage pipes are located above the lamellas, which drain the clarified water into a join drainage channel. Pneumatic valves are provided for ejecting the sediment formed in the settlement process. These valves will work in manual and automatic mode of operation. The lamella settler will serve both, the existing one and the new planned WTP.

Covering of the lamella settler is foreseen with light structure, to prevent falling of leaves and other organic matter that would decompose in the water and cause additional biological pollution.

5. Water filtration process

The next process is filtering the water. The filter equipment is dimensioned for 60l/s. With this process, the residual suspended solids will be removed from the water. The filtration process refers to 3 open sand rapid filters, next to which a tank is provided that has the function of both a distribution tank and a filter backwash tank. The water supply from the lamella settler to the open rapid sand filters is in a gravity manner. The total area of the open filter is 50m^2. The thickness of the layer of quartz sand is 1 m, and the height of the water layer is 200-400 mm. The water from the filters is brought through the distribution channel. The filtered water is taken to the double bottom in the filter, and there through drainage pipes on which there are self-regulating valves goes into a collection channel for clean water. The automatic regulation valve automatically maintains a constant water level in the filter. Filter nozzles are provided on the filter bottom, of 55 nozzles per 1m^2.

The filter is washed with mixture of water and air. The supply of water and air will be brought through the double bottom. Washing with water is in the second and third phase. The second phase lasts 5 minutes with a water quantity of 3-5 l/s/m^2, while in the third phase only washing with water for 4 minutes and a water quantity of 5-7 l/s/m^2. The collection of the treated water is in a distribution tank, which is also used for backwash of the filters, through a pumping system. The required volume for backwash of the filters is 55 m^3. Three filter fields are planned, each of them with dimensions of 3m by 5.5m, with a total filter area of 16.5 m per filter field. The filtration rate through the rapid sand filters in this report was dimensioned at 6m/h.

Total required filter area, of the rapid sand filters amounts to F=49.5m^2.

It will be foreseen automatic and manual mode of operation. The automatic mode of operation, would be according preset water level above the filter material, with the regulation of the output water from the double bottom of the filter through the electric regulation valves. The manual mode of operation is used for the process of backwash of the filters.

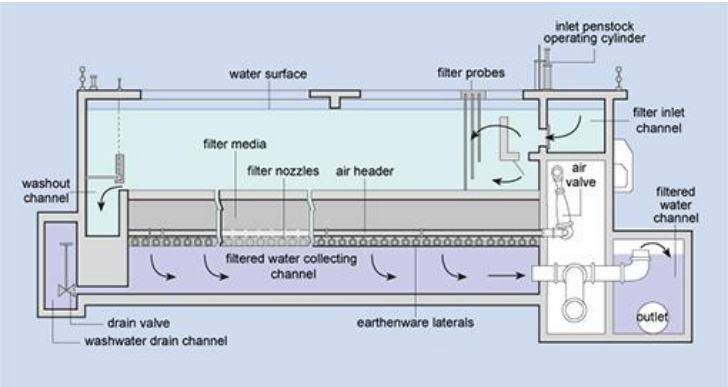


Figure 7. Open rapid sand filter

The mix of water and suspended solids from the sedimentation part of the lamellar settler, during the process of hydraulic washing, will be discharged together with the backwash water from the filters will be discharged into sludge sedimentation tank. The suspended solids from the sedimentation process will be accumulated in a sludge manhole, from which will be pumped with mud pump and disposed to a suitable location.

6. Disinfection of the final water

In the water treatment facility, chlorination is carried out in the final water reservoir (under normal conditions, the dose is 0.4 g/m^3), and final chlorination is performed in the pipeline at the outlet of the facility, depending on the set value for residual chlorine (under normal conditions, it is 0.55 mg/l). This dose is legally prescribed and prevents potential secondary contamination in the distribution system.

The danger of improper water disinfection can be chemical and physical. Chemical hazards occur with improper dosing of the chlorine used for water disinfection in the clean water reservoir and final chlorination in the drainage pipeline. Improper handling and failure to use appropriate protective equipment by employees contribute to this. Physical hazards arise from defects in chlorination bottles and dosing pipelines, defects in the devices used for dosing, and malfunctions in the automation of the neutralization system.

Chlorine dosing is controlled by process instruments, and the value of residual chlorine in the final water is recorded every hour.

Final control of residual chlorine sedimentation

It is carried out in the drainage pipeline with automatic chlorination. The dosing of the chlorine is according laws and legislation and it amounts to 0.5mg/l.

7. Output water regulation system and water quantity meter

An electromagnetic flow meter is placed on the output part in the treatment plant, DN250mm / 315mm. It is necessary the signal to be transmitted to the control room (synoptic), in l/s and in total in m^3. The regulation of the supply of raw water is done through motorized shut-off valves. One is used as working and the other one is backup. The operation of this valves will be automatic and manual mode.

2.4.4. Electrical Infrastructure and Power Supply Requirements

The expansion of the WTP in Letnica requires significant upgrades to the electrical infrastructure to support the increased capacity and ensure reliable operations. To meet these demands, a new transformer station is planned, featuring a 630 kVA transformer with a 20(10)/0.4 kV ratio. This station will consist of separate rooms for medium voltage (MV) switchgear, low voltage (LV) switchgear, and the transformer itself. The design adheres to modern safety standards, including fire protection and ventilation systems.

The plant will connect to the existing medium voltage distribution network through a new underground cable, designed to handle the additional load effectively. The cable, specified as type 3xNA2XS (F) 2Y-3x1x150/RM/20kV, will link the transformer station to the nearest MV pole within the WTP perimeter.

To ensure uninterrupted operations during power outages, the project includes a 160 kVA diesel generator, capable of supplying essential systems such as process equipment, SCADA systems, and general facility needs. This backup system is designed to sustain operations for approximately 8 hours under full load conditions.

The low voltage distribution within the facility will be managed through dedicated distribution boards, ensuring efficient power delivery to all equipment, including pumps, lighting, and control systems. EMC-

protected cables will be used to minimize electromagnetic interference, enhancing system reliability.

A central reactive power compensation system will also be installed, featuring capacitors with a total capacity of 100 kVAr. This system ensures compliance with power quality standards and optimizes energy usage across the facility.

Comprehensive lightning protection is planned for all buildings, safeguarding electrical systems from atmospheric discharges. Overvoltage protection measures will shield sensitive equipment from internal and external surges, ensuring long-term operational stability.

These planned upgrades will provide robust and efficient power supply infrastructure, enabling the expanded WTP in Letnica to meet its operational and sustainability goals effectively.

3. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS

3.1. Geographic characteristics

The FLOWS activities of the Component 2 will take place in the Morava e Binces River Basin. This river basin covers municipalities of Gjilan, Novoberd, Viti, Kllokot, Partesh, Kamenica and Ranilug. In this basin, characterized by low rainfall and high-water stress levels, drought has severely affected water quality, leading to water rationing in major towns and villages. The decline in water quality has made it unsuitable for economic activities, including irrigation, leading to strict rationing measures and depletion of drinking water supply in certain areas.

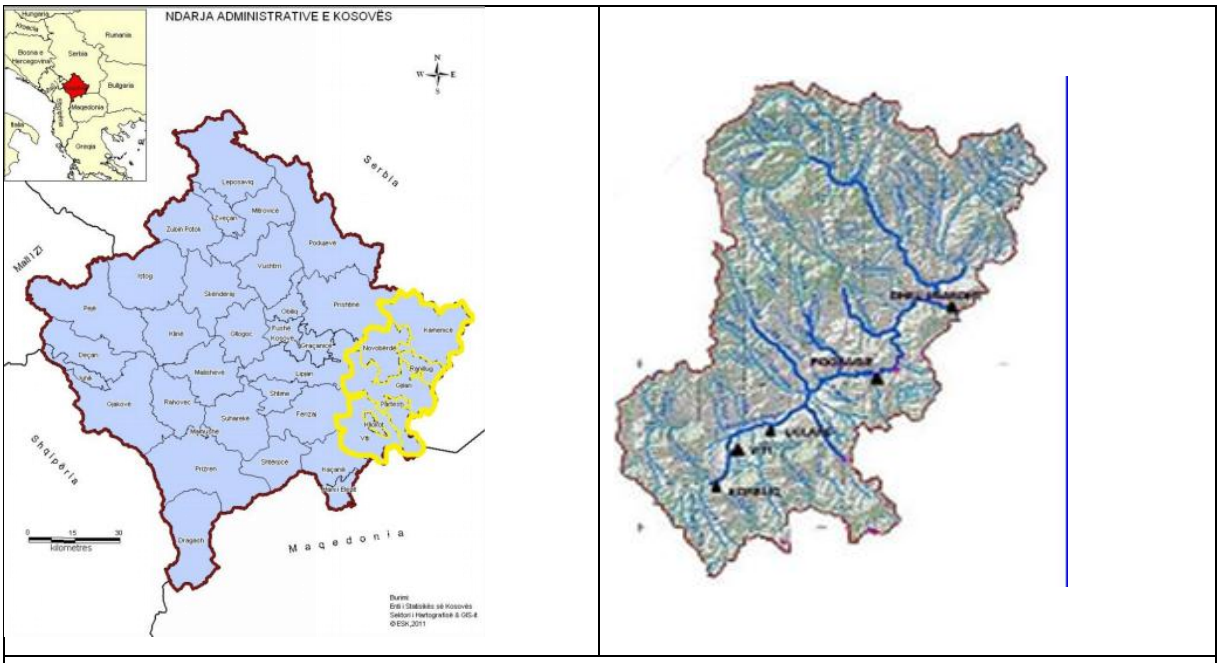


Figure 8: Morava e Binces River Basin (subproject activities under Component 2

The municipality of Viti is located in southeastern Kosovo and covers an area of approximately 276 km². It includes the city of Viti and 38 villages. Geographically, it borders the municipality of Gjilan to the northeast, the municipality of Ferizaj to the west, the municipality of Kacanik to the southwest, and the Republic of North Macedonia to the southeast.

As of the 2011 census, the city of Viti had a population of 4,924 inhabitants. However, this number has since increased to approximately 8000 inhabitants as part of the broader trend of migration from rural areas to urban centers.

3.2. Air Quality and Noise

The Institute for Hydrometeorology in Kosovo (IHMK) monitors air quality across Kosovo through 12 monitoring stations. Within the Morava e Binces river basin, IHMK operates a single monitoring station located in Gjilan, within an urban area and housed within the municipal building. It measures key parameters such as PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, and CO.

The area where the project will be developed is mainly a hilly-mountainous area where there is no air pollution from heavy traffic nor any economic operator.

3.3. Climate

Viti experience a moderate continental climate, with an average annual temperature of 11.2°C. The warmest month is August, reaching 37°C. The lowest temperatures are in the months of December, January and February where in 2018 the lowest temperature of the year was recorded at -16°C. In the highest parts of the municipality, the amount of precipitation is greater, while in the lowest parts the amount of precipitation is also small, in most of the territory of the municipality of Vitia the smallest amounts of precipitation are recorded, which are 600 - 700 mm. The highest amount of precipitation is recorded in the southern and southeastern parts of the municipality, where the mountainous part of the municipality lies. In these areas, precipitation is 800 - 1000 mm.

3.4. Water quantity and quality

Viti faces a significant demand for drinking water and remains one of the municipalities that has yet to adequately address its water supply challenges. The water quality has frequently been reported as non-potable due to high turbidity and insufficient treatment processes. From 2014 to 2018, water consumption steadily increased. Since then, it has fluctuated around 250 liters per day per capita. The Viti Municipal Development Plan 2023–2028 outlines plans to expand the water supply network and extend coverage to several villages, aiming to address these issues.

3.5. Hydrology

The municipality of Viti is rich in both surface and groundwater, with a dense hydrographic network. The surface waters consist of rivers- totaling 55,6 km in length, and streams- covering 387 km. The main rivers in the municipality include the Morava e Binçës, Letinca, Gelbushi, stream Gërnçar, and Debelldeh. Most significant river is Morava that passes through the city of Viti and divides it in half.

The River Letnica watershed borders with the Republic of N.Macedonia, specifically with the watershed of the Lipkovska River. The watershed of a part of the River Letnica up to the intake structure for water supply of WTP Letnice, covers an area of 21.4 km^2.

3.6. Geology

The territory of the municipality of Viti has a geologically complex structure, composed of formations from various geological periods, ranging from the Paleozoic (mainly shales and their derivatives) to the Quaternary (including sand, gravel, sandy clay, and gravel)[5]. Considering the configuration of the terrain, part of the WTP is planned to be carried out at an elevation of 572.5 m.a.s.l in material classified as debris of degraded and decomposed basic rock (cretaceous sediments) with a silty-sandy binder (dr/SM/ML), and a part of the building will be built on an embankment at an elevation of 577.35 m.a.s.l. The foundation of the lamellar precipitator is planned to be carried out at an elevation of 673.5 m.a.s.l. in material classified as silt, sandy and clayey, with low plasticity (ML/CL).

3.7. Floods

Flood events in Viti municipality are common, particularly along rivers and streams; surfaces at risk from flooding are about 150-200 ha.

The E&S Screening indicated that the risk from landslides, soil erosion and localized flooding at the project

[5] DRAFTI-PZHK-VITI-2022-2030-compressed.pdf

location in Letnica is low for construction and use phase. Any residual potential risks were taken into account in the project design. Surface runoff collection and discharge was designed and constructed to efficiently collect and take drainage and rainwater away for the location. The design ensures prevention of water retention at the location and consequently prevents damage to soil and infrastructure.

3.8. Waste Management

Viti municipality disposes its solid waste in the regional landfill in Velekince, Gjilan. The municipalities that deposit the waste in this landfill are: Gjilan, Kamenicë, Viti, Novobërdë, Kaçanik, Shtimje and Ferizaj. In the municipality of Viti, the waste collection and transport services are contracted to KRM Ekohigjiena, as the designated operator. This company provides waste collection and transport services six days a week in the city and once a week in 28 villages. According to data provided by the municipality, nine villages are not included in the waste collection service due to the low number or absence of residents in those areas. According to the Municipal Development Plan for 2023-2030, Letnica will be included in efforts to improve the organized waste collection system.

3.9. Flora & Fauna

In the phytodiversity of Viti, it has been found that there are phytocenoses that are quite rich and interesting in economic, scientific and medical terms. The fauna in the municipality of Viti remains underexplored, yet the region is known to host diverse wildlife.

3.10. Biodiversity

In 2005, the Kosovo Institute for Nature Protection identified 20 natural monuments in the municipality of Viti, 14 of which were proposed for protection. These include 8 botanical natural monuments III, 3 hydrological natural monuments III, 2 protected landscapes V, and 1 geomorphological natural monument. Between 2018 and 2021, Kosovo Environmental Protection Agency added 64 new protected areas (natural monuments and protected landscapes) across Kosovo, including seven in Viti, such as the hornbeam tree trunk in Zhitia village.

3.11. Cultural Heritage

Viti municipality has 30 mosques. They were not damaged in the 1999 conflict and continued to function throughout this time. Five new mosques have been built since 2003. There are 6 Serbian Orthodox churches and 1 Serbian Orthodox monastery. Out of the 6 Serbian Orthodox churches, 2 are in use, one 1 in Binçë village and one 1 in Viti town. The Orthodox Monastery in Buzovik village, a Special Protective Zone, the Orthodox Church in Binac as well as Orthodox churches in Gërmovë, Podgorcë and Zhiti villages, were destroyed/desecrated in the aftermath of the 1999 conflict and were not reconstructed.
There are 6 Catholic churches, located in Viti town and the villages of Letnicë, Vërnez, Kabash, Binçë and Stublla e Epërme, all are in use (source: municipal development plan, religious representatives).
Project location in Letnica village is away from archaeological sites, but provisions are included to address potential chance findings or archaeological discoveries during project implementation.

3.12. Demography

According to the 2011 census, the Municipality of Viti has 46,987 inhabitants[6]. In terms of ethnic background, 99.3% of the inhabitants of Viti are Albanians, 0.25% are Serbs, and 0.45% belong to other

[6] Viti/Vitina MUNICIPAL PROFILES - DocsLib

ethnic groups. The gender ratio of the population is 50.4% male and 49.6% female.

The estimate of the population in the future is based on the growth trends until 2011. What can be observed is the constant growth of the population in Viti and Drobeshi, while in the villages of Ravnishta and Germova the population has been decreasing since 1991.

3.13. Economy

The economy of Viti municipality is predominantly based on agriculture and small trade businesses. There are approximately 1,695 registered businesses operating in the municipality. There is no reliable data on the number of employees in the private sector (source: municipal directorate of finance, economy and development).

Letnica is recognized as an area with significant potential for cultural and mountain tourism. The visit of the Letnica village, by religious pilgrims, descendants of families who have already left the village, or by people simply seeking an idyllic break from city life, is promising for the local economic development.

3.14. Agriculture

The total land area in Viti is 26,969 ha, with 11,141.75 ha utilized for agriculture. The municipality has about 9356 ha of forests (7472 ha public, while 1884 ha private) with beech, oaks, mixed forests, and coniferous forests. The area of arable land per capita is approximately 0.23 ha, while the average arable land per family is around 1.1 ha. For agricultural production, are primarily used wheat, corn and fodder crops for livestock. Other significant crops include vegetables, potatoes, and watermelons. Most agricultural producers are family-owned farms.

Agriculture in Letnica is carried out only in certain areas on a very small scale, where the terrain is flatter, more fertile. There are private gardens cultivated with corn, beans, and vegetables while other villagers raise cows and goats. Some farmers have tractors, but the lack of adequate equipment needed in the fields is evident, and most of the work on the small plots is done manually. There is currently no agricultural cooperative in the village, no farmers' market, or formal distribution system. It is estimated that less than 20% of the arable land is cultivated.

3.15. Infrastructure

The municipality of Viti has relatively good road connections, both within the municipality and with larger centers such as Gjilan, Ferizaj, and Prishtina. A highway that runs close to the municipality provides excellent connectivity to all of Kosovo and the surrounding region. Specifically, Viti, as a small urban center, is located just 14 km from the Arbën Xhaferi highway via the M25-3 road.

At the administrative level, the municipality has a total of 313.48 km of roads across all categories. This road network spans an area of 534.54 hectares throughout the municipality.

The main road to the village Letnica is paved and in good condition, but the same is not for other aspects of the infrastructure. There is no public transport system to the village, and the only way to travel to this remote location is by private vehicle. There is no street lighting on all the village roads. While water distribution has been regulated in recent years, but transportation, street lighting, waste collection and sewage are all in need of improvement and investment.

3.16. Electricity supply

Viti and its surroundings are supplied by the 220/110 kV/kV Prishtina 4 substation, with a 110 kV transmission line which supplies the municipality of Gjilan at the 110/35 kV/kV substation, where the same connection continues with the supply line to the Municipality of Viti in the village of Ramnishte at the 110/35 kV/kV substation, and then from this 110 kV line continues to Sharr. The electrical network of overhead and cable conductors for the 10(20)/04 kV/kV voltage level of the Municipality of Viti is extended to all settlements of the municipality. The 400KV substation in Sojevë represents a good opportunity for the supply and sustainable energy development of electricity in the Municipality of Viti by eliminating the ongoing weaknesses in the electricity supply in the Municipality.

3.17. Culture and Religion

A total of 30 cultural heritage sites, 8 archaeological and 22 architectural, in Viti municipality are included in the Ministry of Culture Youth and Sport list of sites under permanent/temporary protection. In terms of religious affiliation, Viti is dominated by Islamic religion, with 95.34%.

Letnica is well known for the Church of the Blessed Virgin Mary/ Black Madona, which is of great importance to Catholic believers. It should also be noted the importance of this village and its church since it was in this place that a young girl, Anjezë Gonxhe Bojaxhiu, heard the call of God, found inspiration and dedicated her life to helping others; she later became known as Mother Teresa[7].

There are four buildings that have been included in the List of Monuments under Temporary Protection of 2018 by the Ministry of Culture, Youth and Sports: Ivan's Tower, Josip's Tower, Nikollë Mita's and the Frrok Dokiqi's Mill.

3.18. Seismology

It is known that from a seismological point of view, Kosovo is a region with high seismic activity, which has been hit in the past and may in the future be hit by strong earthquakes, many indigenous who are shallow and generate the crust land, maximum 15-20 km deep in the earth.

Record that Ferizaj Region - Gjilan is affected by two very strong earthquakes, the one in 1755 and 1921. The earthquake of 1921, with the same intensity of 9-face with that of 1755, which means that it is repeated here after 166 years.

The territory of Kosovo has several seismic source areas, Ferizaj - Viti - Gjilan with maximum magnitude M = 6.1 Richter. According to it follows that municipality of Viti represents a seismic active in terms of high seismic risk, among other municipalities of Kosovo and neighboring countries.

3.19. Sensitive receptors

Local population (of the village) and businesses (nearby restaurant) and workers (who will be engaged during the project activities) will be defined as sensitive receptors during the implementation of the project. Access road to the project site and existing WTP leads to the village of Letnica. The local population uses the same road in order to access their households, agriculture lands and perform daily routines.

Potential environmental impact and risk and impact and risk assessment for each aspect, is given below.

[7] https://www.osce.org/files/f/documents/f/a/461200.pdf

4. ENVIRONMENTAL AND SOCIAL SCREENING

Environmental and social screening was conducted using the FLOWS ESMF screening form, as detailed in Table 4 in Annex 2. The assigned risk for the subproject is moderate.

Occupational Health and Safety (OHS), environmental, and social measures for local population protection will be integrated into the contract and tender documents to minimize disruptions to the community leaving in the area of Letnica village.

The completion of subproject activities is anticipated to have positive environmental and social impacts, as it will provide beneficiaries access and safe water supply.

5. RISK LEVEL AND MITIGATION INSTRUMENTS

The moderate subproject assigned risk requires the preparation of an ESMP. Some environmental and OHS impacts may be triggered.

Therefore, RWC Hidromorava with the PMT support will include environmental and social requirements for Contractor including all OHS requirements in the contract and tender documents:

Social Risk and Impacts:

- Temporary disruption of main village road access due to the subproject implementation. Therefore, the Contractor is obliged to inform the PAPs for the duration of disruption and make efforts to minimize them.
  - Increased levels of noise and vibration due to heavy vehicles and equipment, which are a nuisance to the community around the site;
  - Increase in road traffic and temporary inaccessibility due to the narrow road sections;
  - Community Health and Safety/Public safety during the implementation;
  - Child Labor. Risk of employing children (under age of 18 years) for work activities;
  - Lack of worker's awareness and knowledge on social safeguard issues on gender, SEA and GBV;

Potential Environmental risks and Impacts:

- Air pollution due to gaseous emissions from operating vehicles and equipment.
- Dust generation during maintenance work's excavation, backfilling and compaction of soil;
- Waste production including solid wastes, hazardous waste and domestic waste. Therefore, contractor is obliged to provide well maintained equipment and follow the mitigation measures that included in the Waste Management Plan. ESMP clauses for Contractor and BoQ's in the tender documents;
- Minor increased levels of noise and vibration due to heavy vehicles and equipment, which are a nuisance to the community of the village and wildlife living around the site;
- Accidental oil spills from machineries and vehicles causing soil and groundwater contamination.
- The risks and potential impacts on the biodiversity and wildlife caused by the activities in the construction phase are local/ short term with moderate significance.
- The risks and potential impacts on the Letnica River caused by construction activities are assessed as local and short-term, with moderate significance within the project location. A low probability of occurrence is attributed to the distance from the river, the nature of the activities, and the presence of regulatory and institutional frameworks, as well as existing infrastructure.

Potential OHS risks and Impacts:

- Work related accidents and injuries from lifting and excavation activities;
- Work related accidents and injuries from vehicles running into workers;
- Coming into contact with hazardous chemicals which may cause skin and eye irritation such as cement, paintings, etc.;
- Falling into excavated zones or tripping;
- Poor onsite sanitation or water supply;
- Risks from physical exhaustion;
- Environmental risks (heat exposure, rainfall, etc.);
- Risks from accidental electrical shocks from electrical poles;
- The risk of employing children (under age of 18 years) for work activities;

- Collapse of excavated trenches, soil on unstable ground.
- Vehicles accidentally running into workers;
- Road accidents while transporting materials and equipment and waste to and from the site;
- Manual handling risks of injuries;
- Air/dust emissions and noise emissions while conducting excavation work and using machineries.

Risks and impacts during operation and maintenance

- OHS risks such as vehicles accidentally running into workers during operation or maintenance;
- Lack of maintenance and impacting the community (i.e. water cuts);

The contractor shall:

- Ensure all workers are older than 18 Years old;
- Maintain occupational health and safety system in the site to protect workers from hazards and risks and provide adequate health and safety training, required PPE, first aid box;
- OHS training should include trainings on dealing with chemicals and handling machines and tools and first aid training;
- Provide the workers with potable drinking water, and shade during hottest hours;
- Avoid all forms of forced, involuntary, unpaid or compulsory labor;
- The daily working hours must not exceed 8 hours;
- The contractor has to ensure the workers have access to toilets, clean water, and designated areas equipped with soap for handwashing.

Gender Based Violence GBV, Sexual Exploitation and Abuse SEA and Sexual Harassment SH:

The Contractor and workers should sign the Code of Conduct (CoC) and ensure workers respect and adhere to the Code of Conduct. CoC to respect the local community cultures, and adhere to the social safeguard issues on Gender, SEA/SH and GBV. Raise awareness on the GM system and how it can be used to report any GBV cases.

Contractor, supported by RWC 'Hidromorava' and FLOWS/PMT should provide the workers with required training and daily discussions (toolbox talk) in the OHS, GBV and SEA.

Contractor should provide the work sites with GM system for all workers including providing complaints box and means of raising awareness about the complaint mechanisms.

Additionally, Contractor should ensure that workers are aware of the complaint mechanisms available to them, such as providing information and raising awareness about how to report issues or grievances.

Grievance Mechanism for Workers

The workers must use the general GM system highlighted in section #10 to submit any grievances pertaining to them. These complaints may include, but are not limited to, the following:

- If a worker believes they have been unfairly *terminated or summarily dismissed* from their employment.
- If there has been a violation or *breach of the terms outlined in the employment contract*.
- In the event of a *work-related injury* or accident, workers can submit grievances related to the incident or their treatment.
- If a worker experiences *discrimination* based on factors such as race, gender, age, or disability.
- Grievances related to instances of *sexual harassment* or inappropriate behavior in the workplace.
- Concerns regarding wages, salaries, overtime pay, or other forms of compensation.
- Complaints alleging *wrongful termination* of employment.

- Grievances related to temporary *suspension* from work.
- If a worker believes they were coerced or pressured into *waiving their rights or claims*.

GM shall adhere to the following principles:

- All workers should be informed about the GM at the time they are hired, and details about how it operates should be easily available, e.g. included in worker documentation or on notice boards.
- Workers must know to whom they can turn in the event of a grievance and the support and sources of advice that are available to them. All line and senior managers must be familiar with their organization's grievance procedure.
- The process should be regularly reviewed and *kept up to date*, for example, by referencing any new statutory guidelines, changes in contracts or representation.
- The process should ensure that a complaint is dealt with *confidentiality*. While procedures may specify that complaints should first be made to the workers' line manager, there should also be the option of raising a grievance first with an alternative manager, for example, a human resource (personnel) manager.
- Procedures should guarantee that any worker raising a complaint will not be subject to any reprisal.
- Procedures should allow for time to investigate grievances fully but should aim for swift resolutions. The longer a grievance is allowed to continue, the harder it can be for both sides to get back to normal afterwards. Time limits should be set for each stage of the process, for example, a maximum time between a grievance being raised and the setting up of a meeting to investigate it.
- A worker should have the *right to appeal* to the World Bank or national courts if he or she is not happy with the initial finding.
- In any meetings or hearings, the worker should have the *right to be accompanied* by a colleague, friend or union representative.
- Written *records should be kept* at all stages. The initial complaint should be in writing, if possible, along with the response, notes of any meetings and the findings and the reasons for the findings. Any records on SEA shall be registered separately and under the strictest confidentiality.
- Grievance procedures should be consistent with any collective agreements.
- Grievance processes should be compliant with the national employment code.

Gender:

The subproject is a priority to all community's groups, men and women, and will serve all families living in the targeted areas of the Viti municipality. It will contribute to ensure the access of water to the beneficiaries and improving the water supply and quality in the area. As well as, prevent beneficiaries from using alternative systems that are susceptible to pollution.

Land acquisition and Affected Parcels:

The RWC Hidromorava has support of the local authorities and the community to implement this project.

The existing Water Treatment Plant (WTP), situated on a 0.2-hectare plot owned by Hidromorava, faced space limitations. To facilitate the plant's expansion, the Municipal Assembly of Viti expropriated parcel 0.4138 hectares (4,138 m²) of agricultural land. This parcel is the only land affected by the project.

The expropriated land, identified as parcel number P70101027-00002-3, registered under the name Jakov Matiq (Tadeja) is classified as Class V agricultural land. The parcel was unused, and the heirs of the owner do not depend on it for income, resulting in minimal social and economic impact.

The expropriation was carried out by the Municipality of Viti in accordance with Kosovo's legal framework, the Resettlement Policy Framework (RPF) for the FLOWS Project, and the World Bank's ESS5. Although

the rightful owner of the parcel could not be identified during the process, the compensation for the expropriated land was determined at full replacement cost. In compliance with Paragraph 15(c) of ESS5, the compensation amount was deposited into an escrow account, ensuring that funds are available and safeguarded until the rightful owner is identified.

During the execution works the contractor must:

- limit the activity only within the framework of the investor's property;
- be careful not to damage neighboring private or public properties during the works, whether meadows, mountains, abandoned factory, etc.
- rent storage or workshop space for equipment and materials as necessary.

6. ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

Environmental and Social Risks

Impacts from the subproject 'Expansion of the Water Treatment Capacities in Letnica, Viti Municipality' are primarily concentrated during the construction phase, attributable to activities such as the operation of heavy machinery, use of raw materials for civil works, noise and vibration emissions, waste generation, and potential risks steaming from incidents and hazards.
Subproject related risks are much less those related to the community and to labor and working conditions.
During the operational phase, the water treatment capacities will demonstrate moderate positive effects, particularly in newly serviced areas with improved water supply services. Specific attention during the operational phase is related to chemical use in the water treatment process, training for the staff and new workers.
Mitigation measures have been determined to reduce the impact of potential environmental and social risks during the subproject implementation, which are provided in Table 2.

During the preparatory and construction project activities the possible **air emissions** will be caused by the operation of the mechanical machinery and equipment (creation of dust and gas emissions).
Air pollution (dust generation and gaseous emissions) during construction and maintained activities will be mitigated by:

- Use of well-maintained equipment and properly maintain machinery to minimize exhaust emissions of CO, suspended particulates and fumes.
- Spray water for dust control.
- Use dust sweeping methods to reduce dust.
- Covering trucks which transport construction and waste materials.
- Storing and covering excavated piles at less windy areas.

During the operational phase there will be no air emissions but gas emissions by mobile sources (the vehicles of personnel).

Increased levels of **noise** and vibration are expected during the preparatory and construction phases of the project. However, considering the absence of residential zones in the immediate vicinity and the significant distance between the project location and the village of Letnica, the impacts from noise and vibration emissions are deemed to be low. However, attention should be given to the potential noise impacts on wildlife in the forest adjacent to the project site.

Increased levels of noise can be mitigated by:

- Use of quiet/well-maintained equipment and regularly maintain equipment.
- Use operational noise mufflers.
- Limit noisy activities to normal day hours.
- Limit vehicle speed at critical locations.

Soil and ground water contamination (oil) that can be mitigated by:

- Ensure no wastes or excavated materials are stored inappropriately to prevent contamination of water sources.
- Provide secondary containment for all chemical contained vessel.
- Presence of suitable spill prevention kits.

- Proper storage of hazardous substances and away from soil and water sources and storage tank.
- Store chemicals, hazardous waste such cement according to their Material Safety Data Sheets (MSDSs).

The different waste streams (such as surplus soil, concrete remains, and communal waste) generated at the project location, should be properly managed by the Contractor through appropriate sorting, transportation, and final disposal, in accordance with national legislation, specifically The Law on Waste No. 04/L-060. It is expected that a Waste Management Plan will be prepared and implemented by the Contractor to prevent improper disposal of waste, particularly near or in the Letnica River and around the Water Treatment Plant (WTP). Waste collection and disposal in the municipality will be handled by the local operator, the public-private company 'Ekohigjiena'. Excavated soil, with some quantities to be reused for backfilling, and any inert waste will be transported to the appointed landfill. The hazardous waste generated at the project locations will be temporarily stored in appropriate containers. The collection, transportation, and final disposal will be carried out in accordance with AI No. 02/2017, which provides a list of hazardous waste based on origin, and disposal/processing will be conducted only in licensed facilities. If asbestos waste (such as old pipes) is discovered or produced during construction works, AI No. 01/2020 will be applied for the management of waste containing asbestos.

Production and disposal of wastes can be mitigated by:

- Ensure good housekeeping measures are kept.
- Ensure solid waste is regularly collected and stored at designated sites in plastic containers.
- Properly collect, transport and dispose of solid waste at designated permitted sites or landfill allocated by the local authorities.
- Properly covering trucks which transport collected waste to avoid spillage during transportation.
- Attach and submit the waste receipt from the assigned landfill authorities.

Work related accidents and injuries can be mitigated by:

- Provide occupational health and safety training to all employees involved in works.
- Provide PPE (protective helmet, masks, overall and safety shoes, and safety goggles, as appropriate);
- Ensure availability of first aid box.
- Details of the nearest hospital should be present on site.
- Following driving safety instructions i.e., trained drivers, following speed limits, using well maintained trucks.
- Ensure warning signs are added at a safe distance from workers and work place to ensure no worker is accidentally ran over by a vehicle.
- Maintain insurance for workers in subproject site according to the requirements and conditions of insurance in the bidding documents which should comply with the national labor law.
- The contractor should submit daily reports on the movement of workers, approved and trained workers to perform the activity.
- The contractor should protect workers, by covering openings and establishing protected fencing, barricaded and guardrails around worksite locations.
- Contractor shall prepare and submit method of statement and OHS risk assessment for high-risk work activities.
- Ensure transport drivers are following good driving practices such as maintaining speed limit and wearing seat belts.
- Ensure workers are aware of proper lifting techniques to avoid back injuries.
- Ensure regular breaks and potable water are provided.
- Conduct work during daylight.

Risk to workers from hazardous material can be mitigated by:

- Train workers regarding the handling of hazardous materials.
- Handle, store and dispose hazardous materials and wastes as per their MSDSs.

Providing employees with access to toilets and water and soap.

- Provide and implement safety precautions onsite during the implementation of the subproject.

Risk of collapse of excavated trenches, soil on unstable ground can be mitigated by:

- Shoring, shielding and support to all excavations.
- Provide supports to adjacent structures where necessary.
- Install safety excavation warning signs along trenches.
- Remove temporary supports progressively as backfilling proceeds.
- The contractor should support excavation sides to avoid collapse of excavation or fall of materials into the excavations and ensure safe access and egress to excavation for equipment and workers.
- Remove unnecessary materials from the side of excavation to prevent materials full in excavation trenches.
- Provide occupational health and safety training to all employees involved in works.

Risk from lifting can be mitigated by:

- Close the lifting area with fence to prevent access to the area during lifting works.
- Install warning signs for lifting activities at work location.
- Carry out lifting work by well trained, qualified lifting team.
- Provide workers with all suitable necessary PPEs and safety materials.
- Use well-maintained equipment for lifting that are appropriate for the weight.
- Secure loads when lifting and use strong and reliable fixation materials to make sure that the load is well tighten and no solid parts falls from the load during lifting.
- Ensure workers are standing at a safe distance from lifting zone.

Risks from physical exhaustion:

- Ensure regular breaks and potable drinking water is provided to all workers.

Risks from environmental risks (heat/cold exposure, rainfall, etc.):

- Ensure checking weather conditions before conducting any work.
- Work should avoid heavy rainy periods, extreme hot and extreme cold weather.

Risks from electrical shocks from electricity infrastructure activities:

- Ensure proper distance is kept from electrical poles.
- Ensure that electrical pole areas nearby are not surrounded with wet soil.
- Provide awareness to workers.
- Work in dry season.

Damage to the utilities and services located underground (electricity, etc.) which can be mitigated by:

- Coordination with local authorities and locating service lines before starting work.
- The area that will be scanned for underground services is needed to be obtained from the relevant government institutions before starting work.
- Get detailed drawings of underground services.

- Before starting excavation, manual excavate is applied to avoid damaging the underground infrastructure.
- Ensure that the Contractor repairs any services or infrastructure that may be damaged during the implementation process within the specified repair time.
- The Contractor is responsible for promptly restoring any public and private assets damaged during the subproject implementation process. This includes repairing any infrastructure, such as roads, sidewalks, or utilities that may be affected by the construction activities. The Contractor must ensure that work is carried out only within the framework of the investor's property.
- The Contractor should provide compensation or restitution for any damages incurred, in accordance with the terms of the project contract and applicable laws and regulations.

The following mitigation measures are recommended for chemical use:

Chlorine handling and safety:

- Ensure proper storage and handling of chlorine gas at the chlorination station to minimize risks of leaks or exposure. Chlorine containers should be stored in well-ventilated areas equipped with automatic chlorine leak detection systems.
- Install chlorine gas detectors in the chlorination room and nearby areas to monitor air quality continuously.
- Provide adequate personal protective equipment (PPE) such as gas masks, gloves, and protective suits for workers handling chlorine.
- Regularly train staff in emergency response procedures for chlorine leaks and other accidents, ensuring rapid and effective containment.

Coagulant and flocculant handling:

- Store coagulants (aluminum sulfate or polyaluminum chloride) and flocculants (anionic polyelectrolytes) in secure, properly labeled containers, away from direct exposure to environmental conditions such as moisture and heat.
- Install spill containment systems to capture any accidental discharge of chemicals during the dosing process. Ensure that any residual chemicals are safely disposed of in accordance with MSDS and local regulations.
- Use automatic dosing systems to minimize human error and over-dosing, ensuring that chemicals are applied in precise quantities.

Water treatment process monitoring:

- Continuously monitor the chemical dosing process to ensure that no excess chemicals are introduced into the system. This includes measuring residual chlorine levels at regular intervals to avoid any harmful concentrations in the treated water.
- Implement real-time monitoring systems for the coagulation, flocculation, and filtration processes to ensure consistent and efficient operation, avoiding overuse of chemicals.

Sludge and waste disposal:

- Treat and dispose of sludge from the lamellar settler and filter backwash water in an environmentally safe manner. Ensure that the sludge sedimentation tank is adequately lined and that the collected sludge is removed regularly to prevent overflow or contamination.
- Dispose of chemical residues, including excess coagulants and flocculants, in accordance with environmental regulations and safety standards. These residues should be transported to licensed waste disposal sites.

Emergency response and spill containment:

- Establish spill containment and emergency response plans in case of accidental releases of chemicals. This includes the availability of spill kits, containment barriers, and a trained emergency response team capable of mitigating the effects of chemical spills.
- Provide emergency shower and eyewash stations at the chemical handling areas to ensure immediate first aid in case of chemical exposure.

Worker and Community Health & Safety:

- Regularly monitor air quality in the water treatment plant, particularly in areas where chemicals are handled, to ensure that workers are not exposed to hazardous chemicals.
- Provide ongoing health monitoring for workers in contact with chemicals, ensuring early detection of any adverse effects.

Table 2: Potential Environmental and Social Risks Impact and Mitigation Measures

Source of impact	Mitigation measures	Responsibility	Estimated Cost
Environmental impacts			
General conditions			
- Notification of public and relevant institutions - Permits - Waste management - Damage of infrastructure	- All relevant institutions (e.g. traffic police, construction, environmental and H&S inspectorate, etc.) has been notified on the upcoming works. The public has received timely and relevant information through appropriate means and its geographical and temporal scope. - All legally required permits (environmental, construction, and other) have been obtained before works commence. - Identifying licensed landfills for major waste streams – hazardous and non-hazardous waste. - Clearly document the scope and timing of the work. - The works transecting utility infrastructure will be coordinated with utility services providers (electricity, sewerage, water supply, telecommunications, etc.). - Precise positions of present infrastructure/installations will be determined before works on a particular section commence.	Contractor / Supervisor Hidromorava	Construction cost
- Expropriated land for expansion of WTP	- Ensure the expropriation process is fully completed, before any construction begins, including compensation payments	Hidromorava Municipality of Viti	Included in administrative costs Municipality of Viti
- Use of construction material (concrete, steel, gravel, etc.), water, energy, generation of waste.	- Identify opportunities and alternatives for resource efficiency, relating to the subproject in accordance with GIIP. - Use pre-mixed concrete and construction materials from existing borrow pits and plants, which owns environmental permits, under the national (and local) regulations. - In case to be used new borrow pits, it is recommended after completing the works the same to be rehabilitated. - Use of energy efficient equipment during construction. - Selection of usable fraction of waste and reuse as construction material, etc.	Contractor/ Supervisor	Construction cost
Air quality and climate changes			
Generation of dust emissions, exhaust gases as a result of: - Preparation of construction sites (cleaning up of sites, demolition activities, etc.); - Construction activities;	- Implementation of good construction practices. - Spraying with water (manually or with sprinklers) on construction site, storage area, road. - Placing of a protection fence or temporarily protective walls on the construction site. - Stabilizing or covering the heaps of inert materials. - Daily removal of the excavated earth and other waste material in covered transportation vehicles.	Contractor/ Supervisor	Construction cost Protection fence for dust protection (m2/€)

- Use of equipment, mechanisation and transport activities; - Generation of waste; - Storage, handling of materials and waste.	- Implementation of measures for waste management, including organic waste. - Optimization of transport activities. - Proper maintenance of equipment and mechanisation. - Use of fuels with less polluting emissions. - Mandatory washing of tires. - Daily cleaning of access roads. - Implementing procedures for handling of construction materials.		Water for dust suppression (m2/€) Transport of waste
Noise and vibration			
- Equipment and mechanisation for construction and transport activities; - Construction activities.	- Implement good construction practices. - Limit the noise emissions in accordance with the national requirements (Law on Noise Protection No. 02/L-102). - Select silenced compressors or use quieter hydraulic equipment. - All mechanical equipment should be silenced appropriately and regularly maintained. - Construction works will not be permitted during the night.	Contractor/ Supervisor	Construction cost
Water			
Performance of construction activities near water bodies – Soil erosion as a result of construction activities; – Risk of Contamination form storage and usage of chemicals and auxiliary materials, fuels; – Generation of waste and its temporary storage, – Maintenance and servicing of the equipment, washing of the equipment; – Incidental spillage on sites etc. – Damage of the vegetation	– Construction area next to the watercourses to be only large as it is strictly necessary to perform the construction works – Construction activities should be scheduled during the dry season to minimize disruption to water flow and flooding risks. – Implement soil erosion control measures in order to avoid surface run off and prevent siltation. – If there is a risk of discharge of high quantity of sediment into watercourses, to install clarifiers (sediment traps). – Implement spill prevention and response measures to address any accidental releases of pollutants. – Provide leak prevention equipment near the construction site for urgent cleaning. – Implementation of measures for waste and hazardous material management. – Ensure proper cleaning and sanitation of all construction materials and equipment to prevent contamination of waterways, and prohibit washing of equipment or vehicles in rivers or their vicinity.	Contractor/ Supervisor Hidromorava in coordination with and PMT	Construction cost
Waste			
Generation of different types waste (hazardous and non-hazardous), as inert waste, municipal waste, biodegradable waste, packaging waste, as a result of: - Use of construction materials; - Use of equipment and mechanisation, - Presence of workers and etc.	- Implementation of good construction practices. - Preparation of Waste Management Plan for all activities in accordance with Law on waste No. 04/L-060 (amended and supplemented). - The temporary or final disposal of waste near or in the river is strictly forbidden to ensure the prevention of any decrease in water quality, which serves as the primary drinking water supply for the Viti municipality.	Contractor/ Supervisor in cooperation with Hidromorava and Municipalities	Construction cost Preparation of Waste Management Plan

	- The plan should be addressing issues such as location and methods of storage, transport and disposal, as well procedure for waste management, measures for monitoring and periodic audits.		
- Wet cement spills from trucks during transport on curvy, hilly terrain. - Increased risk of accidents due to steep, curvy roads. - Damage to local roads due to heavy trucks. - Increased noise levels from truck operations.	- Ensure the cement production company is licensed. - Trucks are properly covered to prevent spillage. - Spill kits in each truck provided. - Drivers trained in spill response protocols. - Drivers trained on navigating hilly terrain. - Limit speed on slopes and curves when working with cement trucks.	Contractor/ Supervisor	Construction cost
Soil			
- Degradation, erosion, compaction, destruction of the topsoil as a result of construction activities; - Storage of raw materials and waste on sites; - Soil contamination as a result of accidental spillage of fuel, chemicals (chlorine, coagulant, flocculants), hazardous waste; - Revealed contaminated soil on the subproject site; - Generation of waste and wastewater	- The topsoil (humus) should be properly removed before the excavation begins, stored and used after the completion of the activities, for the purpose of re-cultivation and stabilization of the slopes. - The removed soil heaps should be stabilised or covered (with textile) and temporary stored safely. - In a case of revealed contaminated soil on the construction sites, the Contractor should have determined and prepared procedures for appropriate storage and handling of contaminated soil, in accordance with the relevant standards as well through communication with the MESPI. - In case of soil contamination by accidental spillage, the contaminated soil layer should be removed and treated as hazardous waste in accordance with law obligation. - Implementation of procedures for handling of construction materials and waste, etc. - Implementation of measures for wastewater management. During the rainy season, construction activities should be scheduled during periods of low rainfall to minimize the risk of flooding and sediment spread. - take all protective measures to ensure the stability of the excavation, prescribed according to the standards of the technical regulation, ie. protection against collapsing and endangering the working personnel and machinery	Contractor/ Supervisor	Construction cost
Biodiversity and landscape			
- Earth work, risk of vegetation removal and other construction activities, - Performance of construction activities near water bodies and possible water pollution; - Soil erosion; - Storage of materials and waste; - Generation of waste and wastewater.	- Working site shall be kept at its minimum surface; - Cutting of plants and destruction of the habitats for storage of the raw materials or waste is strictly forbidden. - It is strictly forbidden to disturb animals in the nearby forest; - Open fires and burning of waste and other materials is strictly forbidden; - Apply good construction practices that would avoid pollution. - Careful cleaning up of the construction site immediately after the completion of the construction activities, etc. - Setting up equipment and objects that will not disturb the landscape values of the sites.	Contractor/ Supervisor	Construction cost

	- Implementation of measures for water and soil protection as well as waste management.		
Social issues			
- Damage to private/public assets in the corridor of impact	- Ensure that the expropriation procedure is finalized before entering/clearing private property. - limit the activity only within the framework of the project site; - be careful not to damage neighboring private or public properties during the works, whether meadows, mountain, abandoned factory, etc. - rent storage or workshop space for equipment and materials as necessary. - Ensure the damaged assets are restored before leaving the project site.	Contractor / Supervisor Hidromorava	Construction Cost
- Damage to the utilities and services located underground (electricity, water, etc.) and causing the residents to stop their services.	- Coordination with local authorities and locating service lines before starting work. - Get detailed drawings of underground services. - Before starting excavation, manual excavate is applied to avoid damaging the underground infrastructure. - The area that will be scanned for underground services is needed to be obtained from the relevant municipal institutions before starting work. - Ensure contractor repairs any services that were destroyed during implementation.	Contractor Hidromorava	Construction cost
- Gas emissions generated from machines, and vehicles on the site	- Maintain machinery in good working conditions to minimize emissions - CO, NOx and other fumes. - Provide adequate protective wear for workers, and equipment must be maintained regularly to avoid any emissions. - Offer good practice awareness to workers to turn off vehicles and machinery when not in use.	Contractor	Mandatory
- Loud noise and severe vibration caused by machines, and vehicles.	- Measures to reduce noise to acceptable levels must be implemented and could include silencers, mufflers. Avoiding or minimizing transportation through or processing material (like concrete mixing).in community areas - Machinery must be maintained regularly to avoid exceeding noise emission from poorly maintained machines. - Limit noisy activities to normal daylight hours. - Limit vehicle speed at critical locations. -	Contractor	Mandatory
- Solid waste, trash, produced by workers (organic, plastic, etc.) accumulates and pollutes the environment	- Ensure that workers regularly collect all solid waste in well-sealed bags and transport it to a designated landfill or dispose of it properly through a certified contractor or at an authorized facility, in a manner that does not harm the environment.	Contractor	Mandatory
- The low aesthetic value of landscape, accumulation of raw materials, accumulation of excess soil, waste and debris, etc.	- Plant new trees and replant if any was accidentally damaged. - Remove the accumulated waste and debris in the maintenance site. - Intervention site must be cleaned when investments are completed.	Contractor	Mandatory
- Traffic jams due to the movement of vehicles from/to worksite and transporting of materials	- Before the works, the Contractor should carry out consultations with Hidromorava and the community. - Coordinate with the traffic authority in the city on the maintenance schedule.	Contractor	Mandatory

	- It is strictly forbidden to transport materials for construction during rush hour. - Find alternatives (detours) to either side of the existing road before excavating and reconstructing existing surfaces. - Do not start any maintenance activities before the installation of traffic safety and control safeguards. - Install signs to detour were necessary to guide the driver to follow. - Where required, allocate persons to direct traffic in areas where work is taking place. -		
- Increased electricity demand - Electrical system stability during upgrade - Fire hazard due to installation of the electrical equipment	- Install a dedicated transformer substation with sufficient capacity (630 kVA). - Upgrade existing electrical infrastructure. - Perform system tests and checks to ensure safe integration of new substation with the existing grid. - Install fire detection systems and fire suppression equipment. - Ensure proper grounding and insulation. -	Electrical engineer/ Contractor	BoQ
- Access of public into the worksite	- Install fences, barriers, dangerous warning/prohibition sites around the working area which showing potential danger to public. - Place appropriate warning and directional signs at areas where work is taking place. - Keep road surfaces clear from materials such as soil and gravel. - Conduct management and safety plans for maintenance activities. - Erect removable barriers. - Protect proper shielding scaffolds. -	Contractor	BOQ Items. Mandatory (Contractual Obligation)
- Lack of workers' awareness and knowledge on respecting local community cultures, and social safeguard issues on Gender, SEA/H, and GBV.	- Contractor and its workers to sign the Code of Conduct. - Ensure workers respect and adherence to the CoC for the local community's protection and do no harm. - GM system in place to handling any issues on Gender, SEA/H, and GBV.	Contractor/ Supervisor	Mandatory
- Child Labor	- All workers should be older than 18 years old. - Ensure a worker log is available, and all workers are registered.	Contractor/ Supervisor	Mandatory
Occupational Health & Safety (OHS) Impacts			
- General OHS issues	The following mitigation measures are applicable to all OHS impacts - Ensure skilled workers are hired for each job. - Conduct regular awareness sessions and daily Toolbox Talks on OHS requirements before commencing any work. - Periodic inspection to ensure that mitigation measures are implemented and stop any unsafe act or unsafe situation.	Contractor/ Supervisor	Mandatory

	- Emergency response plan to be in place with details and contact of the nearest hospital or medical center, responsibilities are understood for all works, first aid boxes are available and a list of trained first aiders is posted and known by all workers with available transportation.
	- Immediately report all accidental occurrences with serious accident potential such as major equipment failures, and exposure to hazardous materials to the Hidromorava and PMT.
	- Contractors shall monitor, keep records and report on the following environmental and social issues:
	  - *Safety:* hours worked, lost time injury (LTI), lost workdays, recordable incidents and corresponding Root Cause Analysis (lost time incidents, medical treatment cases), first aid cases, high potential near misses, and remedial and preventive activities required (for example, revised job safety analysis, new or different equipment, skills training, and so forth).
	  - Major works: those undertaken and completed, progress against subproject schedule, and key work fronts (work areas).
	  - *ESHS requirements:* noncompliance incidents with permits and national law (legal noncompliance), subproject commitments, or other ESHS requirements.
	  - *ESHS inspections and audits:* by Project Company, Independent Engineer, PMT and Hidromorava, or others—to include date, inspector or auditor name, sites visited, and records reviewed, major findings, and actions taken.
	  - *Maintaining a record of injuries and accidents specifying cause and location*
	  - *Provide a list of trained workers, who will be checked for their training skills. Measures will be implemented onsite and followed by regular monitoring visits*.		

Excavation risks:
- Falling in excavated areas.
- Dust from excavation
	Protection from falls, Falling Loads, and Equipment
	- Install barricades around excavated zones or open zones.
	- Grade soil away from the excavation.
	- Provide workers with safety breathing masks against dust near excavation works.
	- Provide warning systems such as mobile equipment, barricades, hand or mechanical signals, or stop logs, to alert operators of the edge of an excavation. If possible, keep the grade away from the excavation.
	- Provide and install protective barricades and other equivalent protection to protect employees against falling rock, soil, or materials.
	- Prohibit employees from working on faces of sloped or benched excavations at levels above other employees unless employees at lower levels are adequately protected from the hazard of falling, rolling, or sliding material or equipment.
	- Prohibit employees under loads that are handled by lifting or digging equipment. To avoid being struck by any spillage or falling materials, require employees to stand away from vehicles being loaded or unloaded competent person must make daily inspections of excavations, areas around them and protective systems:
	  - Before work starts and as needed,
	  - After rainstorms, high winds or other occurrences which may increase hazards.
		Contractor/ Supervisor	Mandatory

	- When reasonably anticipated that an employee will be exposed to any hazard.		
- Lifting operations (overhead crane for lifting working materials)	- Close the lifting area with fence to prevent access to the lifting area during lifting work. - Install warning signs for lifting activities. - Prevent accessibility to non-workers at lifting zones or any construction zone. - Carry out lifting work by well-trained, qualified, and certified lifting team and with proper communication means and flag Man. - Provide workers with all necessary PPEs and safety materials. - Use well-maintained equipment for lifting that is appropriate for the weight; well checked and tested by a third party. - Ensure workers are standing within a safe distance from the lifting zone. - Secure loads when lifting and use strong and reliable fixation materials to make sure that the load is well tightened and no solid parts fall from the load during lifting. - Ensure workers and any person is standing at a safe distance from the lifting area.	Contractor/ Supervisor	Mandatory
- Emergency response and accidents	- Contractor has to prepare emergency response plan and establish and maintain an emergency preparedness and response system, to cover: (i) the contingencies that could affect personnel of the subproject to be financed; (ii) the need to protect the health and safety of subproject workers; (iii) the need to protect the health and safety of the affected people and communities. - The emergency preparedness and response system shall include: • identification of the emergency scenarios, specific emergency response procedures, and training of emergency response teams, • emergency contacts and communication systems/protocols (including communication with affected communities), • procedures for interaction with government authorities (emergency, health, environmental authorities), • permanently stationed emergency equipment and facilities (e.g., first aid stations, firefighting equipment, spill response equipment, personal protection equipment for the emergency response teams), • protocols for the use of the emergency equipment and facilities with clear identification of evacuation routes and muster points emergency drills and their periodicity based on assigned emergency levels or tiers, • decontamination procedures and means to proceed with urgent remedial measures to contain, • limit and reduce pollution within the physical boundaries of the subproject sites, property and assets to the extent possible. - The emergency preparedness will include both the construction and the operation phases, and a dedicated, trained, and competent contractor team will be trained to handle the emergency response responsibilities.	Contractor/ Supervisor	Mandatory

	First Aid and Accidents - Ensure that qualified first-aid by qualified personnel is always available. Appropriately, equipped first-aid stations should be easily accessible throughout the place of work. - Provide workers with rescue and first-aid duties with dedicated training so as not to inadvertently aggravate exposures and health hazards to themselves or their co- workers. - Provide eye-wash stations and/or emergency showers close to all workstations where immediate flushing with water is the recommended first-aid response. - Provide dedicated and appropriately equipped first-aid room(s) where the scale of work or the type of activity being carried out so requires. - Equip first aid stations and rooms with gloves, gowns, and masks for protection against direct contact with blood and other body fluids. - Make widely available written emergency procedures for dealing with cases of trauma or serious illness, including procedures for transferring patient care to an appropriate medical facility. - Immediately report all accidental occurrences with serious accident potential such as major equipment failures, contact with high-voltage lines, and exposure to hazardous materials, slides, or cave-ins (sudden collapse) to Hidromorava and PMT. - Immediately investigate any serious or fatal injury or disease caused by the progress of work by the Contractor and submit a comprehensive report to Hidromorava and PMT. - Details of the nearest hospital should be present on site.		
- Manual Handling	- Provide required information and training on manual handling to the site workers. - Ensure applying safe handling techniques. - Remove space constraints, ensure good housekeeping and providing improved layouts - Keep manual handling to one level, improve floor conditions and improve the environmental conditions. - Ensure use of appropriate PPE and safety materials. - Addressing potential use of handling aids with matching safety measures. - Ensure workers are aware of correct lifting techniques or physical work to avoid injuries including back injuries - Ensure regular breaks are maintained and the presence of potable drinking water.	Contractor/ Supervisor	Mandatory
- Dust and noise emissions during excavation and while using machineries and equipment (OHS)	- Provide dust masks to workers. - Provide ear mufflers to workers working with or near noisy equipment and machines. - Ensure proper maintenance of equipment and machineries. - Use dust sweeping methods and limited water for dust suppression.	Contractor/ Supervisor	Mandatory
- Road accidents while transporting equipment and materials	- Ensure drivers received awareness sessions on good driving practices such as maintaining speed limits and wearing seat belts.	Contractor/ Supervisor	Mandatory

	- Coordinate with local authorities to provide and manage alternative road for smooth traffic if required.		
- Environmental pressures on workers (heat / cold strokes, storms) / Inadequate working conditions	- Allow resting breaks in shaded / hot areas. - Provide proper PPEs against heat and cold. - Do not allow working during bad weather, rain, storms, etc	Contractor/ Supervisor	Mandatory
- Chemicals hazardous substances and wastes	- Ensure all chemicals present in the worksite, are handled, stored, and disposed according to their MSDSs. - Ensure workers are wearing proper PPEs while handling chemicals such as gloves, masks, goggles.	Contractor/ Supervisor	Mandatory
- Poor onsite sanitation or water supply, leading to illness and disease.	- Provide adequate supplies of potable drinking water. - Ensure that water supplied for the purpose of personal hygiene (washing) meets water quality standards. - The contractor should provide mobile latrines, which must contain wash hands and soap.	Contractor/ Supervisor	Mandatory
- Improper use of equipment which causes injuries	- Provide storage place in the worksite to ensure good storage for the machinery and equipment in the end of the day. - Check the used equipment if they are in compliance with the relevant standard. - Train the workers at a safe distance from moving parts to avoid injuries. - Monitor the operation of equipment during all working times on the equipment to ensure safe procedures are in place and stop any dangerous acts with equipment directly. - Prohibit the use of untrained workers and use restricted to trained operators only. - Ensure that workers wear the necessary personal protection equipment at all times.	Contractor/ Supervisor	Mandatory
- Vehicles running into workers	- Emphasis safety aspects among drivers. - Control and manage traffic, by using traffic cones, barriers, fences, or lights as appropriate. - Daily inspection and maintenance for the vehicles by the contractor to ensure they are in good condition prior to start the work. - Provide traffic signs in the worksite, especially for speed limits, routes directions, parking places, entrance and exits, and worksite warnings signs. - Stop the movement of vehicles in worksite in bad weather conditions to avoid collision. - Arrangement and control of the worksite entrance and exits, and not allow for unauthorized person or vehicles enter the worksite.	Contractor/ Supervisor	Mandatory
- Electrical shocks from electricity poles: Work in dry season	- Ensure proper distance is kept from electrical poles - Ensure that electrical pole areas nearby are not surrounded with wet soil. - Provide awareness to workers.	Contractor/ Supervisor	Mandatory

7. ENVIRONMENTAL AND SOCIAL MONITORING PLAN

The implementation of the mitigation measures will be monitored accordingly through daily checks by the Supervisor and Hidromorava, weekly and event-based by and PMT staff during field monitoring visits.

The aspects that will be monitored, which is provided in Table 3, will be updated to accommodate any emergency or updated aspects that may be recommended by the monitoring reports.

Table 3. Environmental and Social Monitoring Plan

Impact	Measurements		Frequency	Implementation responsibility
	Methods	Indicators		
Community Health and Safety				
- Public safety during the work.	Visual observation and photographic documentation of safety measures. Visual observation for installing of warning signs, barricading of working areas with safety tapes and fencing/ barricades to prevent unauthorized access of public to the working areas.	Number of recorded injuries and accidents	Daily basis Weekly during site inspection visits On any complaint	Contractor/ Supervisor Hidromorava and PMT
- The risk of employing children for work activities.	Site inspection, checking and documentation of contractor employee records	Number of recorded employees below the age of 18	Weekly during site inspection and regularly	Supervisor Hidromorava and PMT
- External stakeholder engagement		Highlights, including formal and informal meetings, and information disclosure and dissemination—to include a breakdown of women and men consulted and themes coming from various stakeholder groups, including vulnerable groups (e.g., disabled elderly, children, etc.).	Monthly	Contractor / Supervisor Hidromorava and PMT
- Complaints and feedback Handling	Complaints' forms will be kept on site, and feed into the GM register. Details of complaints received will be incorporated into the monitoring process	Number of reported Grievances No. of grievances resolved, Number of grievances outstanding. No. of grievances escalated.	Weekly	Contractor / Supervisor Hidromorava and PMT
- GBV and SEA issues	GBV and SEA Complaints' will be registered into the GM register. Details of complaints received will be incorporated into the monitoring process	Number of reported and registered cases of the SEA/SH through subproject GM. Number of reported cases of contractors' noncompliance to SEA/SH obligation on work sites.	Weekly	Contractor / Supervisor Hidromorava and PMT
- Contractor and their workers signed the Code of Conduct (CoC)	Contractor, and their workers signed on the CoC and they are aware to respect the local community's protection and do no harm.	Number of CoC signed.	Before commencement of work	Contractor/ Supervisor Hidromorava and PMT

General Environmental Impacts				
- Dust generation during work.	Visual observation and photographic documentation of equipment induced dust clouds during construction/ rehabilitation activities	Visible dust emissions. Number of GM related to air pollution	Daily Weekly for received complaints	Contractor/ Supervisor Hidromorava and PMT
- Increased level of noise and vibration.	Site supervision/ inspection and documentation to ensure compliance with the noise mitigation measures	Percentage of workers comply with suitable PPE procedures Number of GM and complaints related to noise.	Daily Weekly during site inspection.	Contractor / Supervisor Hidromorava and PMT
- Air pollution due to emissions from equipment, machinery and transportation trucks.	Visual observation and photographic documentation of equipment induced emissions from vehicles and transport trucks and excavation work during implementation of activities.	Quantity of consumed fuel. Visible dust clouds. Number of complaints regarding dust and air emissions	Daily Weekly during construction works and site inspection	Contractor/ Supervisor Hidromorava and PMT
- Production, proper disposal and disposal of work's debris and waste materials.	Inspection and photographic documentation	Records of presence of wastes stored in open areas and at undesignated areas and increase in waste pollution Presence of waste collection receipt	Daily Weekly during construction works and site inspection	Contractor/ Supervisor Hidromorava and PMT
- Soil and water contamination	Inspection and photographic documentation	Visible change in soil color Presence of visible leaks of chemicals	Daily Weekly during construction works and site inspection	Contractor/ Supervisor Hidromorava and PMT
Occupational Health and Safety				
- Lifting Operations	Visual inspection to ensure that all lifting activities in the work site are executed safely and as per the standard lifting safety rules. Visual inspection that safety distance from lifting sites is adhered to OHS reports	Records and number of lifting accidents Number of workers not wearing proper PPEs Records of non-compliances such as standing under lifting zone	Daily Weekly during construction works and site inspection	Contractor/ Supervisor Hidromorava and PMT
- Manual Handling	Visual inspection to ensure that all manual handling activities are performed according to the OSH manual handling safety rules and instructions. Record any noncompliance Ensure that the implementation of the safety techniques to control the manual handling risk is monitored continuously	Number of injured workers from manual handling Number of workers not wearing proper PPEs	Daily Weekly during construction works and site inspection	Contractor/ Supervisor Hidromorava and PMT

- Excavation	Visual inspection to ensure that all excavation activities are executed safely, and all safety rules are implemented. Recorded noncompliance with photographic proof.	Presence of visible dust cloud Presence of workers not wearing masks and adhering to PPEs Number of injuries from excavated zones Number of workers not wearing proper PPEs	Daily Weekly during construction works and site inspection	Contractor / Supervisor Hidromorava and PMT
- Chemicals and hazardous substances and wastes	Visual inspection Recorded noncompliance with photographic proof.	Records of hazardous wastes in undesignated zones Chemicals, wastes and hazardous substances are not labelled Number of workers not wearing suitable PPEs while handling chemicals and wastes	Daily Weekly during construction works and site inspection	Contractor / Supervisor Hidromorava and PMT
- Work related accidents and injuries.	Inspection and photographic documentation	The record of injuries and accidents indicating the number of injured workers in the subproject report specifying cause and location. Corrective actions recorded	Daily Weekly during construction works and site inspection	Contractor / Supervisor Hidromorava and PMT
- Poor onsite housekeeping, toilet and water supply	Visual inspection Site inspection	Presence of clean water and soap Presence of waste at undesignated areas Reports on illness and diseases.	Daily Weekly during construction works and site inspection	Contractor / Supervisor Hidromorava and PMT
- Safety	Visual inspection Site inspection	Hours worked, recordable incidents, root causes, incident types (e.g., lost time, medical treatment, first aid, near misses), and required remedial actions. This includes revising safety procedures, introducing new equipment, and providing additional training.	Daily Weekly during construction works and site inspection	Contractor / Supervisor Hidromorava and PMT
- Environmental incidents and near misses	Environmental incidents and high potential near misses and how they have been addressed, what is outstanding, and lessons learned.	Number and types of recorded environmental near misses	Daily	Contractor/ Supervisor Hidromorava and PMT
- Major works		Work undertaken and completed, progress against subproject schedule, and key work fronts (work areas).	Daily	Contractor/ Supervisor Hidromorava and

			Weekly during construction works and site inspection	PMT
- E&S and OHS requirements		Register non-compliance incidents with permits and national law (legal non-compliance), subproject commitments, or other E&S requirements.	Daily	Contractor/ Supervisor Hidromorava and PMT
- E&S/OHS inspections and audits		By contractor, engineer, or others, including authorities to include date, inspector or auditor name, sites visited, and records reviewed, major findings, and actions taken.	Weekly	Contractor/ Supervisor Hidromorava and PMT
- Workers issues		Number of workers, indication of origin (local, nonlocal nationals), gender, age with evidence that no child labor is involved, and skill level (unskilled, skilled, supervisory, professional, management). Number of grievances raised by workers and number of solved grievances	Daily Weekly during construction works and site inspection	Contractor/ Supervisor Hidromorava and PMT
- Training on E&S issues	Including dates, number of trainees, and topics.	Training records and number of training sessions on OHS risks and E&S issues and attendances	Weekly	Contractor/ Supervisor Hidromorava and PMT
Operation and Maintenance				
- Workers dissatisfaction/issues	GM reports	Number and type of GM and solved GM related to work issues	Continuous/daily	Contractor/ Supervisor Hidromorava, PMT
- Operation and Maintenance (Staff Health and Safety and community health and safety, social and environment)	Ensure same monitoring measures are implemented during operation and maintenance	Number of complaints due to misfunctions of water network Number of water cuts Number of maintenance times	Continuous daily	Hidromorava
- Operation and Maintenance - Training to staff	Training on how to operate and maintain the new WTP equipment, clean them, use of proper PPEs, safety measures, etc.	Number of trainings received by new WPT workers.	Prior to handing the subproject to the facility administration.	Hidromorava
- Operation and Maintenance - Water quality and quantity	Monitor and manage water quality and quantity	Number of monitoring conducted on water quality and quantity. Presence of water monitoring devices	Monthly	MESPI in coordination with the PMT Hidromorava, Municipality

	Conduct awareness campaigns and educational programs	Increased awareness and knowledge among the local community about sustainable water management Number of awareness sessions conducted		

8. STAKEHOLDERS ENGAGEMENT AND PUBLIC CONSULTATION

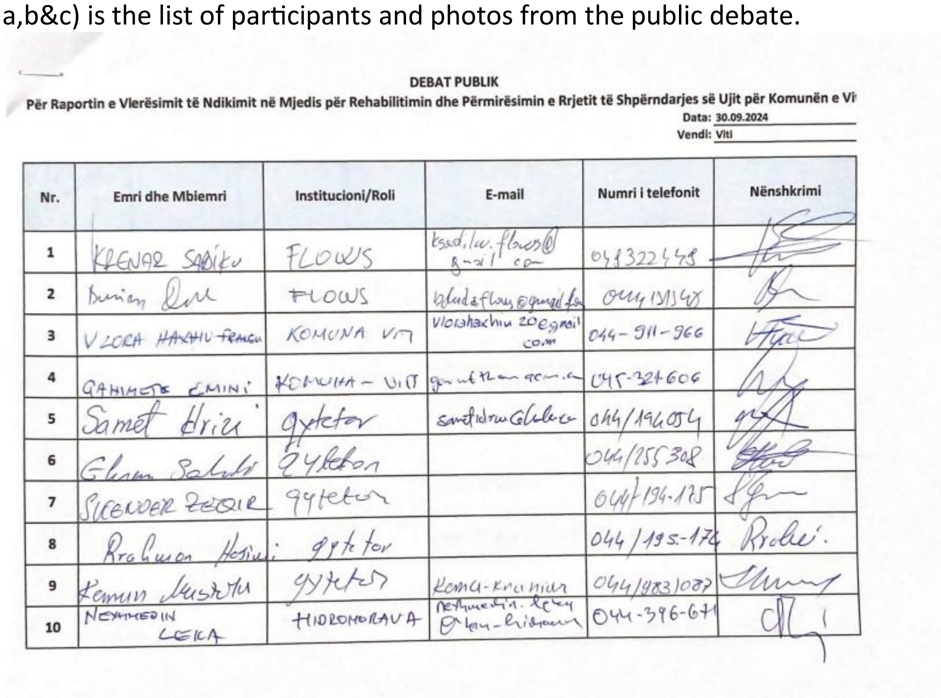
Since the initiation of the FLOWS project, a series of formal and informal meetings have been organized with stakeholders and affected parties, for this subproject proposed by Hidromorava.

The consultation process involved face-to-face and group meetings with members of local communities, municipal authorities and other stakeholder. During these meetings, detailed information about the project was shared, including its objectives, potential impacts, and proposed mitigation measures. Community members emphasized their priority for consistent access to drinking water, expressing strong support for the proposed investments due to their anticipated positive social impacts.

RWC Hidromorava, in coordination with the PMT remains closely engaged with the local authorities in Viti, gathering public feedback during site visits to ensure community acceptance and support.

An Environmental Impact Assessment (EIA) report has been prepared for the project, in compliance with local legislation, Law No. 08/L-181 on Environmental Impact Assessment. As part of the EIA procedure, a public debate was conducted to present Hidromorava's planned investments in the municipality of Viti.

On 30.09.2024, at 15:00 in the Assembly of the Municipality of Vitia, a public debate was held on Rehabilitation and Network Improvement the Distribution of the water about Municipality of Viti. Twenty-nine (29) participants participated in the debate where the project and the importance it will have for that area were discussed. The possible environmental and social impacts of the project were subsequently discussed, where all measures to be taken during the construction and operation phase were explained. Participants expressed satisfaction with the project and the benefits they will have. Attached below (Figure 9 a,b&c) is the list of participants and photos from the public debate.



DEBAT PUBLIK

Për Raportin e Vlerësimit të Ndikimit në Mjedis për Rehabilitimin dhe Përmirësimin e Rrjetit të Shpërndarjes së Ujit për Komunën e Vi

Data: 30.09.2024

Vendi: Viti

Nr.	Emri dhe Mbiemri	Institucioni/Roli	E-mail	Numri i telefonit	Nënshkrimi
1	KRENAR SABIKU	FLOWS	[illegible]	04[illegible]322448	[illegible]
2	Burian Deli	FLOWS	[illegible]	044 131348	[illegible]
3	VLORA HAXHIU-FRANGU	KOMUNA VIT	vlorahaxhiu20@gmail.com	044-911-966	[illegible]
4	GAHIMETE EMINI	KOMUNA - VIT	[illegible]	045-324606	[illegible]
5	Samet Hriz[illegible]	qytetar	[illegible]	044/194054	[illegible]
6	Elmm Salihi	qytetar		044/255308	[illegible]
7	SKENDER ZEQIR	qytetar		044/194-125	[illegible]
8	Rrahman Hasini	qytetar		044/195-174	[illegible]
9	Kemin Mustafa	qytetar	[illegible]	044/983/087	[illegible]
10	NEXHMEDIN LEKA	HIDROMORAVA	nexhmedin.leka@[illegible]	044-396-671	[illegible]

Për Raportin e Vlerësimit të Ndikimit në Mjedis për Rehabilitimin dhe Përmirësimin e Rrjetit të Shpërndarjes së Ujit për Komunën e Vi

DEBAT PUBLIK

Data: 30.09.2024
Vendi: Viti

Nr.	Emri dhe Mbiemri	Institucioni/Roli	E-mail	Numri i telefonit	Nënshkrimi
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12	Antoneta Palja	Komuna Viti	Antoneta.palja@gmail.com	049214164	[illegible]
13	Besa Mustafa	Komuna Viti	Besa.M.Mustafa@rks-gov.net	045-479-345	Mustafa
14	Besiana Selmani	Komuna Viti	selmanibesiana814@gmail.com	044-672-144	[illegible]
15	Mirhabije Emërllahu	Komuna Viti		049/702-755	[illegible]
16	YLLKA HALABAKU			044/240/669	[illegible]
17	ELIONA AJETI	Komuna VITI	elionaajeti06	045 1466 814	[illegible]
18	Qendrim Muharremi	K. Viti	gejja3@gmail.com	049704097	[illegible]
19	Fatlum Demiri	—	[illegible]	044-396906	[illegible]
20	Milihate Ajeti	K Viti	Milihate.Ajeti@rks-gov.net	046-426-311	[illegible]

Për Raportin e Vlerësimit të Ndikimit në Mjedis për Rehabilitimin dhe Përmirësimin e Rrjetit të Shpërndarjes së Ujit për Komunën e Vi

DEBAT PUBLIK

Data: 30.09.2024
Vendi: Viti

Nr.	Emri dhe Mbiemri	Institucioni/Roli	E-mail	Numri i telefonit	Nënshkrimi
21	ARTA AJETI	DKA - VITI	arta.ajeti@rks-gov.net	044 265 870	[illegible]
22	Xhavit Emini	Njës.-/udhëheqës [illegible]	Xhavit.emini@rks-gov.net	049-777-091	[illegible]
23	KRESHNIK ALIU	[illegible]	kreshnikaliu@hotmail.com	049616110	[illegible]
24	Mustafë Islami	Drejtoria e Shërbimeve Publike	tefa_islami@hotmail.com	044-616-098	[illegible]
25	LAURA GJAKOVA	FLOWS	lgjakova.flows@gmail.com	044/152-261	Laura Gjakova
26	ARBEN KELMENDI	FLOWS		049337100	[illegible]
27	BLERT GJINOLLI	ECT	blert.gjinolli@ect-ks	— " —	[illegible]
28	PELLUMB GJINOLLI	Hartues, VNM	pgjinolli@gmail.com	045550650	[illegible]
29	Voltiza Dreshaj	ECT	voltiza.dreshaj@ect-ks.com	046/575/813	[illegible]
30					

Figure 9 a,b&c - List of participants

Photo 1&2. Public discussion

9. CAPACITY BUILDING

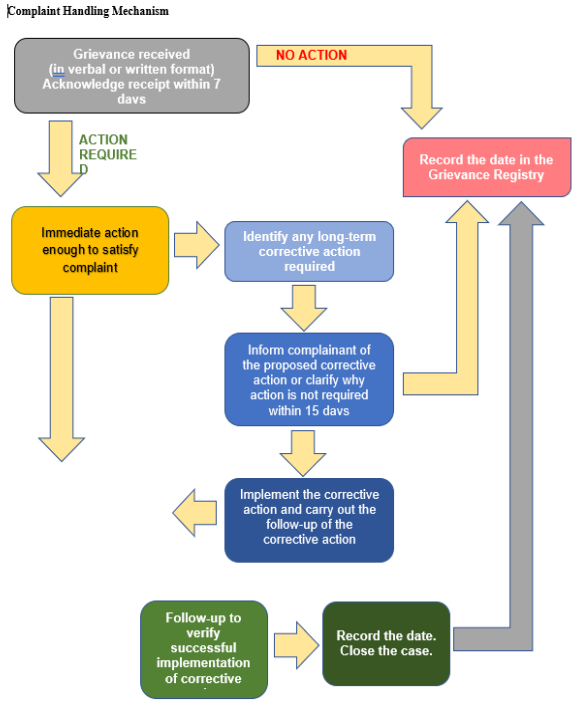
The PMT will organize capacity-building sessions for Hidromorava at various stages of the subproject life cycle. Training for RWC Hidromorava staff will include updates aligned with the World Bank's ESSs. Additional training sessions, meetings and joint site visits, will focus on implementation procedures, required forms, risk assessment methods, and general Occupational Health and Safety (OHS) requirements. Before handing over sites to the contractor, Hidromorava and the PMT will ensure that awareness sessions are conducted for workers and community committees, emphasizing environmental, social, and OHS aspects essential for project implementation. Throughout the implementation phase, the contractor's OHS staff will conduct regular awareness sessions for the workers to address daily risks, including issues such as Gender-Based Violence and Sexual Exploitation and Abuse (GBV&SEA), the Grievance Redress Mechanism (GRM), and the Code of Conduct (CoC).

10. GRIEVANCE MECHANISM

As part of an ongoing move to improve its accountability, FLOWS has in place a GM system for managing, responding to, and monitoring issues within its Program. The PMT will respond and interact with all partners and beneficiaries to improve and adopt an efficient GM, focusing on institutionalizing the experience in dealing with complaints and mainstream it in the system context. GM awareness sessions have been conducted to explain the mechanism and introduce the system to the local communities, including female members and workers.

GM templates distributed to the local community that have full details on the system and complaint boxes placed in the subproject sites which will be opened weekly in a formal meeting with supervision from the local community committee that is selected earlier during the early intervention stage and is usually consisted of males and females.

The complaints are then registered and classified according to their type and raised to branch offices to be addressed and solved. Other communication means also introducedto beneficiaries and listed below:



- Web page https://flows-ks.info/forma-e-ankeses/
- Citizens engagement web site Fostering and Leveraging Opportunities for Water Security
- Telephone, SMS, Viber and What's Up Number: +383 48 600 883
- Face to face by during site visits of PMT
- Complaints box at subproject location

All cases received (including complaints, requests for information, suggestions, etc.) will be logged in the GRM register.

PMT has established a Grievance Redress Committee to handle GRM. Initially, Hidromorava with the Committee members will address complaints and assist people during implementation, serving as the first level of grievance redress.

If the claimant is not satisfied with the decision made by the first-tier GRM, they can file a grievance with the second-tier GRM in the MESPI/PMT, which consists of three members: two from MESPI and one from PMT. This second-tier GRM, managed by the PMT, will have

the mandate to review subproject grievances that cannot be resolved at the first GRM level and manage all other grievances related to the project.
PMT is tasked with keeping the grievance log updated, disclosing relevant information periodically on the FLOWS website, and keeping the World Bank informed about GRM status.

Project Complaint Form	
Reference Number	
Full name (not mandatory) **I would like to submit my complaint anonymously.** **I ask not to reveal my identity without my consent.**	
Contact information **Please indicate how you would like to be contacted (mail, phone, e-mail).**	☐ **By mail: Please provide the mailing address:**_____ _____ _____ ☐ **By phone:** _____ ☐ **By E-mail:** _____
Preferred language of communication	☐ **Albanian** ☐ **Serbian** ☐ **Other:** _____
Description of incident for complaint	What happened? Where did it happen? Who did it happen to? What is the outcome of the problem?
Date of Incident / Complaint	
	☐ **One time incident/complaint (date _____)** ☐ **It happened more than once (how many times? _____)** ☐ **Ongoing (currently experiencing a problem)**
What would you like to see happen?	
Contact information for questions and complaints: **FLOWS Project** **Address: Hajdar Dushi** **Tel: + 383 48 600 883** **E-mail: complaints@flows-ks.info**	Signature: _____ Date: _____

Figure 11. Grievance Redress Form

11. IMPLEMENTATION AND REPORTING OF ESMP

The following roles and responsibilities of various stakeholders involved in the implementation and reporting of the Environmental and Social Management Plan (ESMP) for the project are outlined below:

Contractor:

This ESMP is a part of the contract that Contractor will sign with RWC Hidromorava.

The Contractor will use this ESMP for preparing its C-ESMP. The model is attached in Annex 1. ENVIRONMENTAL AND SOCIAL REQUIREMENTS FOR THE CONTRACTOR.

The Contractor, including Contractor's Subcontractors, are responsible for implementing the ESMP requrements. The Contractor is required to report on a monthly basis regarding the implementation of the ESMP. Additionally, the Contractor must monitor, keep records, and report to Supervisor on various environmental and social issues, including safety, incidents, workers' grievances, and stakeholder engagement.

Supervisor:

The Supervisor is tasked with monitoring and reporting daily, as well as irregularly, on the implementation of mitigation measures and environmental issues to RWC Hidromorava.

RWC Hidromorava:

RWC Hidromorava plays a supervisory role in the implementation process. They receive reports from both the Contractor and Supervisor regarding environmental and social issues. RWC Hidromorava is responsible for overseeing the execution of the ESMP and ensuring compliance with environmental and social standards.

PMT:

The PMT, established for the FLOWS Program, within the Ministry of Environment, Spatial Planning and Infrastructure (MESPI), is responsible for managing procurement, financial management, environmental and social compliance, and monitoring and evaluation reporting under the FLOWS. The PMT ensures that subproject development objectives are met and facilitates communication with relevant local government entities and ministries to ensure effective and timely implementation of activities.

The FLOWS PMT is responsible for reporting the implementation of the ESMP to the World Bank.

Municipality of Viti and MESPI:

The Inspectorate of Viti Municipality and Inspectorate of MESPI will oversee the implementation of the ESMP/EMMP and the Implementation of measures set in the EIA Report (or MESPI) at the project site in Letnica/Viti.

The inspectorate ensures compliance with local requirements for environmental and social standards, as well as all permits requirements.

Annex 1 -ENVIRONMENTAL AND SOCIAL REQUIREMENTS FOR THE CONTRACTOR

Contractor shall meet the following Environmental, Social, Health and, Safety (including labor) requirements – thereafter called ESHS requirements.
The ESHS requirements include the following:

- Contractor Environmental and Social Management Plan (C-ESMP)
- ESHS Training
- Construction Site Management
- Occupational Health and Safety (OHS)
- Chance Find Procedures
- Emergency Preparedness and Response
- Stakeholder Engagement
- Code of Conduct
- Contractor Environmental and Social Reporting

Contractor Environmental and Social Management Plan (C-ESMP)

- ✓ Prepare and submit to FLOWS/PMT for approval a Contractor Environmental and Social Management Plan (C-ESMP).
- ✓ Include in the C-ESMP a detailed explanation of how the contractor's performance will meet the ESHS requirements
- ✓ Ensure that sufficient funds are budgeted to meet the ESHS requirements, and that sufficient capacity is in place to oversee, monitor and report on C-ESMP performance.
- ✓ Put in place controls and procedures to manage their ESHS performance. Get prior written approval from Hidromorava before starting construction /rehabilitation activities.

ESHS Training

- ✓ Determine ESHS training needs in collaboration with Hidromorava and PMT.
- ✓ Maintain records of all ESHS training, orientation, and induction.
- ✓ Ensure, through appropriate contract specifications and monitoring that service providers, as well as contracted and subcontracted labor, are trained adequately before assignments begin.
- ✓ Demonstrate that its employees are competent to carry out their activities and duties safely. For this purpose, the Contractor shall issue a Competence Certificate for every person working on site (relative to trade and aspect of work assignment) that specifies which tasks can be undertaken by which key personnel.
- ✓ Training should include occupational health and safety measures, GBV HS and social health and safety measures, Environmental health and safety measures, waste management and hazardous materials management.

Orientation Training

- ✓ Provide ESHS orientation training to all employees, including management, supervisors, and workers, as well as to subcontractors, so that they are apprised of the basic site rules of work at/on the site and of personal protection and preventing injury to fellow employees.
- ✓ Training should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.

Visitor Orientation

- ✓ Establish an orientation program for visitors, including vendors that could access areas where hazardous conditions or substances may be present.

- ✓ Visitors shall not enter hazard areas unescorted.
- ✓ Ensure that visitors shall always be accompanied by an authorized member of the Contractor, or a representative of Supervisor, who has successfully fulfilled the ESHS orientation training, and who is familiar with the subproject site construction hazards, layout, and restricted working areas.

New Task Employee and Contractor Training

Ensure that all workers and subcontractors, prior to commencement of new assignments, have received adequate training and information enabling them to understand work hazards and to protect their health from hazardous ambient factors that may be present. The training should adequately cover the step-by-step process that is needed for subproject activities to be undertaken safely, with minimum harm to the environment, including:

- Knowledge of materials, equipment, and tools
- Known hazards in the operations and how they are controlled
- Potential risks to health
- Precautions to prevent exposure
- Hygiene requirements
- Wearing and use of protective equipment and clothing
- Appropriate response to operation extremes, incidents and accidents

Construction Site Management

Vegetation

- ✓ Prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the construction site.
- ✓ Protect all trees and vegetation from damage by construction operations and equipment.
- ✓ Revegetate damaged areas on completion of the works, and for areas that cannot be revegetated, scarifying the work area to a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.
- ✓ Repair, replant, reseed or otherwise correct, as directed by FLOWS PMT, and at the Contractor's own expense, all unnecessary destruction, scarring, damage, or defacing of the landscape resulting from the Contractors operations.
- ✓ Transport labor and equipment in a manner to avoid as much as possible damage to grazing land, and property.

Protection of the Existing Installations

- ✓ Safeguard all existing buildings, structures, works, pipes, cables, sewers, or other services or installations from harm, disturbance or deterioration during construction activities
- ✓ Coordinate with local authorities to identify existing infrastructure that might not be visible
- ✓ Repair any damage caused by the Contractor's activities, in coordination with concerned authorities.
- ✓ Working during night hours is not permitted.

Waste from Construction Activities

- ✓ Collect and properly store and manage all solid wastes and hazardous wastes resulting from the construction activities, including construction debris and spoils, to prevent the contamination of soil and groundwater.
- ✓ When chemicals are present, they should be stored and disposed according to their MSDSs.
- ✓ Remove unneeded excavation material from construction sites as soon as possible.
- ✓ Agree with municipality about construction waste disposal.
- ✓ Minimize littering of roads by ensuring that vehicles are licensed and loaded in such a manner as to prevent

falling off or spilling of construction materials, and by sheeting the sides and tops of all vehicles carrying mud, sand, other materials or debris.

- ✓ Transfer construction waste to assigned places in the selected waste disposal sites with documented confirmation.
- ✓ Properly dispose of solid waste and debris and hazardous waste at designated permitted sites waste disposal sites allocated by the local authorities and obtain a receipt of waste from the authorized landfill authority.

Hazardous and Toxic Materials

- ✓ Train workers regarding the handling of hazardous materials.
- ✓ Store hazardous materials as per the statutory provisions of the manufactures.
- ✓ Provide adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids.
- ✓ Use impervious surfaces for refueling areas and other fluid transfer areas.
- ✓ Train workers on the correct transfer and handling of fuels and chemicals and the response to spills.
- ✓ Provide portable spill containment and cleanup equipment on site and training in the equipment deployment
- ✓ Deposit or discharge toxic liquids, chemicals, fuels, lubricants and bitumen into containers for salvage or subsequent removal to off-site locations.
- ✓ Treat hazardous waste separately from other waste.
- ✓ Avoid the storage or handling of toxic liquid adjacent to or draining into drainage facility.
- ✓ Keep absorbent materials or compounds on-site in sufficient quantities corresponding to the extent of possible spills.

Area Signage

- ✓ Appropriately mark hazardous areas.
- ✓ Install warning signs.
- ✓ Ensure that signage is in accordance with international standards – pictograms, and easily understood by workers, visitors and the general public as appropriate.
- ✓ Demarcate work sites with safety tape, fencing or barricades, as appropriate, to prevent unauthorized access to the construction sites
- ✓ Safeguard public safety by covering holes and by installing guardrails along temporary pathways.

Decommissioning of Worksites and Plant

- ✓ Clear construction sites of any equipment or waste, and ensuring that the sites are free from contamination.
- ✓ Dispose of or recycle any equipment or waste in an appropriate and environmentally sound manner.
- ✓ Hand construction sites over to the original owners, taking into account his/her wishes and national legislation.

Health and Safety

Severe Weather and Facility Shutdown

- ✓ Design and build work place structures to withstand the expected elements for the region and designate an area designated for safe refuge, if appropriate.
- ✓ Develop Standard Operating Procedures (SOPs) for subproject or process shut-down, including an evacuation plan.

Lavatories and Showers

- ✓ Provide adequate lavatory facility for the number of people expected to work at the construction sites.
- ✓ Provide toilets with adequate supplies (e.g. soap, disinfectants, etc).

Potable Water Supply

- ✓ Provide adequate supplies of potable drinking water
- ✓ Ensure that water supplied for the personal hygiene (washing) meets water quality standards.

Clean Eating Area

- ✓ Where there is potential for exposure to substances poisonous by ingestion, make suitable arrangements to provide clean eating areas where workers are not exposed to the hazardous or noxious substances

Personal Protective Equipment (PPE)

- ✓ Identify and provide at no cost appropriate PPE to workers, the workers of subcontractors, as well as to visitors, which gives adequate protection.
- ✓ Ensure that the use of PPE is compulsory.
- ✓ Provide sufficient training in the use, storage and maintenance of PPE to its workers and workers of its subcontractors.
- ✓ Properly maintain PPE, including cleaning when dirty and replacement when damaged or worn out;
- ✓ Determine requirements for standard and/or task-specific PPE based on of Job specific Safety Analysis;
- ✓ Consider the use of PPE as a last resort when it comes to hazard control and prevention, and always refer to the hierarchy of hazard controls when planning a safety process.

Noise

Institute appropriate measures to reduce the exposure of workers to construction noise, including but not limited to:

- ✓ Avoid exposure to a noise level greater than 85 dB for a duration of more than 8 hours per day withouthearing protection. In addition, no unprotected ear should be exposed to a peak sound pressure level (instantaneous) of more than 140 dB.
- ✓ Enforce the use of hearing protection should be enforced actively when the equivalent sound level over 8 hours reaches 85 dB, the peak sound levels reach 140 dB, or the average maximum sound level reaches 110dB.
- ✓ Provide hearing protective devices capable of reducing sound levels at the ear to at most 85 dB.
- ✓ Rotate staff to limit individual exposure to high levels.
- ✓ Install practical acoustical attenuation on construction equipment, such as mufflers.
- ✓ Use silenced air compressors and power generators.
- ✓ Keep all machinery in good condition.
- ✓ Install exhaust silencing equipment on bulldozers, compactors, crane, dump trucks, excavators, graders, loaders, scrapers and shovels.
- ✓ Post signs in all area where the sound pressure level exceeds 85 dB.
- ✓ Shut down equipment when not directly in use.

First Aid and Accidents

- ✓ Ensure that qualified first-aid by qualified personnel is always available. Appropriately, equipped first-aid stations should be easily accessible throughout the place of work.
- ✓ Provide workers with rescue and first-aid duties with dedicated training so as not to inadvertently aggravate exposures and health hazards to themselves or their co- workers.
- ✓ Provide eye-wash stations and/or emergency showers close to all workstations where immediate flushing with water is the recommended first-aid response.
- ✓ Provide dedicated and appropriately equipped first-aid room(s) where the scale of work or the type of activity being carried out so requires.
- ✓ Make widely available written emergency procedures for dealing with cases of trauma or serious illness, including procedures for transferring patient care to an appropriate medical facility.

- ✓ Immediately report all accidental occurrences with serious accident potential such as major equipment failures, contact with high-voltage lines, and exposure to hazardous materials, slides, or cave-ins to Hidromorava and FLOWS/PMT.
- ✓ Immediately investigate any serious or fatal injury or disease caused by the progress of work by the Contractor, and submit a comprehensive report to Hidromorava and FLOWS/PMT.

Emergencies

- ✓ Establish and maintain an emergency preparedness and response system, in collaboration with appropriate and relevant third parties including to cover: (i) the contingencies that could affect personnel and facility of the subproject to be financed; (ii) the need to protect the health and safety of subproject workers; (iii) the need to protect the health and safety of the affected communities.
- ✓ The emergency preparedness and response system shall include:
  - Identification of the emergency scenarios
  - Specific emergency response procedures
  - Training of emergency response teams
  - Emergency contacts and communication systems/protocols (including communication with affected communities when necessary)
  - Procedures for interaction with government authorities (emergency, health, environmental authorities)
  - Permanently stationed emergency equipment and facility (e.g., first-aid stations, firefighting equipment, spill response equipment, personal protection equipment for the emergency response teams).
  - Protocols for the use of the emergency equipment and facility.
  - Clear identification of evacuation routes and muster points.
  - Emergency drills and their periodicity based on assigned emergency levels or tiers.
  - Decontamination procedures and means to proceed with urgent remedial measures to contain, limit and reduce pollution within the physical boundaries of the subproject property and assets to the extentpossible.

Stakeholder Engagement

- ✓ The Contractor will be required to undertake a process of stakeholder engagement with representative persons and communities directly affected by the activities it undertakes. The Contractor shall also maintain throughout the subproject, good relations with local communities and will give these communities prior notice of plans and schedules as they might affect local people.
- ✓ The stakeholder engagement process will also be applicable in the event of land acquisition associated with changes in the footprint of activities.

Labour Force Management

Labour Influx

- ✓ Avoid contamination of fresh water sources.
- ✓ Provide opportunities for workers to regularly return to their families.
- ✓ Provide opportunities for workers to take advantage of entertainment opportunities away from rural host communities.
- ✓ Ensure that children and minors are not employed directly or indirectly on the subproject, and keep registration and proof of age for all employees on-site.
- ✓ Pay adequate salaries for workers to reduce incentive for theft.
- ✓ Pay salaries into workers' bank accounts.

- ✓ Get an appropriate mix of locally and non-locally procured goods to allow local subproject benefits while reducing risk of crowding out of and price hikes for local consumers.
- ✓ Hire workers through recruitment offices, and avoid hiring 'at the gate' to discourage spontaneous influx of job seekers
- ✓ Identify authorized water supply source and prohibiting use from other community sources.
- ✓ Put in place measures to reduce water and electricity consumption.
- ✓ Employ locals to the extent possible.
- ✓ Develop and adopt a Gender Action Plan to promote the transfer of construction skills to local women, to facilitate their employment at the subproject site, including training and recruitment targets.

Labor Conditions

- ✓ Implement the measures and commitments defined in the Labor Management Procedures.
- ✓ Provide all workers with terms and conditions that comply with Kosovo Labor Law and applicable International Labour Organization conventions on workplace conditions.

Insurance

- ✓ Provide insurance for call employees involved in onsite activities.
- ✓ Compensate any employee for death or injury, except to the extent that liability arises.

Grievance Mechanism for Workers

The Contractor will put in place a Grievance Mechanism for its workers and the workers of its subcontractors that is proportionate to its workforce. The GM shall be distinct from the subproject level Grievance Mechanism for affected individuals and communities, and shall adhere to the following principles:

- ✓ *Provision of information*. All workers should be informed about the grievance mechanism at the time they are hired, and details about how it operates should be easily available, for example, included in worker documentation or on notice boards.
- ✓ *Transparency of the process*. Workers must know to whom they can turn in the event of a grievance and the support and sources of advice that are available to them. All line and senior managers must be familiar with their organization's grievance procedure.
- ✓ *Keeping it up to date*. The process should be regularly reviewed and kept up to date, for example, by referencing any new statutory guidelines, changes in contracts or representation.
- ✓ *Confidentiality*. The process should ensure that a complaint is dealt with confidentially. While procedures may specify that complaints should first be made to the workers' line manager, there should also be the option of raising a grievance first with an alternative manager, for example, a human resource (personnel) manager.
- ✓ *Non-retribution*. Procedures should guarantee that any worker raising a complaint will not be subject to any reprisal.
- ✓ *Reasonable timescales*. Procedures should allow for time to investigate grievances fully but should aim for swift resolutions. The longer a grievance is allowed to continue, the harder it can be for both sides to get back to normal afterwards. Time limits should be set for each stage of the process, for example, a maximum time between a grievance being raised and the setting up of a meeting to investigate it.
- ✓ *Right of appeal*. A worker should have the right to appeal to the World Bank or national courts if he or she is not happy with the initial finding.
- ✓ *Right to be accompanied*. In any meetings or hearings, the worker should have the right to be accompanied by a colleague, friend or union representative.
- ✓ *Keeping records*. Written records should be kept at all stages. The initial complaint should be in writing, if possible, along with the response, notes of any meetings and the findings and the reasons for the findings. Any records on SEA shall be registered separately and under the strictest confidentiality.

- ✓ *Relationship with collective agreements*. Grievance procedures should be consistent with any collective agreements.
- ✓ *Relationship with regulation*. Grievance processes should be compliant with the national employment code

Protection from Sexual Exploitation and Abuse

- ✓ Provide repeated training and awareness raising to the workforce about refraining from unacceptable conduct toward local community members, specifically women.
- ✓ Inform workers about national laws that make sexual harassment and gender-based violence a punishable offence which is prosecuted.
- ✓ Prohibit its employees from exchanging any money, goods, services, or other things of value, for sexual favors or activities, or from engaging any sexual activities that are exploitive or degrading to any person.
- ✓ Develop a system to capture gender-based violence, sexual exploitation and workplace sexual harassment related complaints/issues.
- ✓ Adopt a policy to cooperate with law enforcement agencies in investigating complaints about gender-based violence.

Protection from Child Labor

- ✓ Exclude all persons under the age of 18 and verify that workers are older than 18 when hiring.
- ✓ Review and retain copies of verifiable documentation concerning the age of workers.

Code of Conduct

- ✓ Contractors shall ensure that all employees, including those of subcontractors, are informed about and sign Code of Conduct:

Contractor Environmental and Social Reporting

Contractors shall monitor, keep records and report on the following environmental and social issues:

- ✓ *Safety:* hours worked, lost time injury (LTI), lost workdays, recordable incidents and corresponding Root Cause Analysis (lost time incidents, medical treatment cases), first aid cases, high potential near misses, and remedial and preventive activities required (for example, revised job safety analysis, new or different equipment, skills training, and so forth).
- ✓ *Environmental incidents and near misses:* environmental incidents and high potential near misses and how they have been addressed, what is outstanding, and lessons learned.
- ✓ *Major works:* those undertaken and completed, progress against subproject schedule, and key work fronts (work areas).
- ✓ *ESHS requirements:* noncompliance incidents with permits and national law (legal noncompliance), subproject commitments, or other ESHS requirements.
- ✓ *ESHS inspections and audits:* by Project Company, Independent Engineer, FLOWS/PMT and its implementing partners, or others—to include date, inspector or auditor name, sites visited and records reviewed, major findings, and actions taken.
- ✓ *Workers:* list of workers at each site, confirmation of ESHS training, indication of origin (expatriate, local, nonlocal nationals), gender, age with evidence that no child labor is involved, and skill level (unskilled, skilled, supervisory, professional, management).
- ✓ *Training on ESHS issues:* including dates, number of trainees, and topics.
- ✓ *Footprint management:* details of any work outside boundaries or major off-site impacts caused by ongoing construction—to include date, location, impacts, and actions taken.
- ✓ *External stakeholder engagement:* highlights, including formal and informal meetings, and information disclosure and dissemination—to include a breakdown of women and men consulted and themes coming from various stakeholder groups, including vulnerable groups (e.g., disabled, elderly, children, etc.).

- ✓ *Details of any security risks:* details of risks the Project Company may be exposed to while performing its work—the threats may come from third parties external to the subproject.
- ✓ *Worker grievances:* details including occurrence date, grievance, and date submitted; actions taken and dates; resolution (if any) and date; and follow-up yet to be taken—grievances listed should include those received since the preceding report and those that were unresolved at the time of that report.
- ✓ *External stakeholder grievances:* grievance and date submitted, action(s) taken and date(s), resolution (if any) and date, and follow-up yet to be taken—grievances listed should include those received since the preceding report and those that were unresolved at the time of that report. Grievance data should be gender-disaggregated.
- ✓ *Major changes to Contractors environmental and social practices*.
- ✓ *Deficiency and performance management:* actions taken in response to previous notices of deficiency or observations regarding ESHS performance and/or plans for actions to be taken should continue to be reported to FLOWS/PMT until it determines the issue is resolved satisfactorily.

ANNEX 2 – ENVIRONMENTAL AND SOCIAL SCREENING

Table 4. Environmental and social Risk Questionnaire for the subproject 'Expansion of the Water Treatment Capacities in Letnica, Municipality of Viti'

No	**ENVIRONMENTAL AND SOCIAL CHECKLIST QUESTIONNAIRE**	YES	NO	Notes
1	Does the proposed activity include new construction and extension of activity?	x		The proposed activity involves constructing a new water treatment plant adjacent to the existing WTP in Letnica, serving as an extension of the current operations.
2	Does the proposed activity include rehabilitation activities?	x		Small works for connection of the new water treatment plant with existing water supply infrastructure
3	Does the proposed activity belong in Annex I of the Law on Environmental Impact Assessment (list of Projects for which full EIA is mandatory)?		x	
4	Does the proposed activity require other type of EA under the national legislation?	x		Hidromorava's project is classified to undergo a simplified EIA process, as it falls under Annex 2 Projects that are examined on a case-by-case basis. The implementation of measures outlined in the EIA Report including those in the Environmental and ESMP, will be a mandatory requirement for the contractor during construction activities.
5	Does the proposed activity require specific public consultations under the national legislation?		x	Public consultation is a mandatory component of the EIA process under national legislation. A public debate was organized in Viti on 30 September 2024.
6	Does the project use natural resources such as land, water, materials or energy, particularly any resources which are non-renewable or in short supply?	x		Standard construction materials will be used in coarse of sub-project activity
7	Is the project activity performed in or potentially affects an archaeological or cultural heritage site?		x	Although there are no known archaeological sites in the project area, any unexpected findings during implementation should be reported promptly.
8	Will the project activity be a source of dust, pollutants or some hazardous, toxic or harmful substances in the air?	x		Certain emissions from construction activities such as dust and emissions from construction equipment will be produced

9	Will the project be a source of greenhouse gases or ozone depletion substances?		x	Except for emissions from construction machinery used in construction phase, no source of greenhouse gases will be present on site in construction phase.
10	May the project cause microclimate changes?		x	
11	Will the project be a source of noise and vibration?	x		Only in construction phase emissions of noise and vibrations will be present on site
12	Will the project generate significant quantities of waste (hazardous, non-hazardous, inert waste)?	x		Most of the waste created will be non-hazardous construction waste and inert waste (surplus soil)
13	Will the Project involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?		x	In constructional phase constructional materials (sand, metal rods, paintings, etc.) will be stored; there will be storage of materials used for treatment of raw water (such as flocculants, coagulant, chlorine) in operational phase
14	Will the project generate additional wastewater?		x	The increase in water treatment capacities will result in the generation of additional wastewater which will need to be treated appropriately before being released into the environment.
15	Are there any risks of contamination of surface waters?	x		Contamination of surface waters is possible if incident/accident occurs such as spillage of fuel / grease from engaged construction machinery.
16	Are there any risks of contamination of ground waters?	x		Again, only possibility of contamination is due to accidental fuel / grease spillage or leakage
17	Are there any activities, which will lead to physical changes of the water body?		x	No activities for physical changes on water bodies (River Letnica) will be undertaken
18	Will the project contribute to pollution of international waters?		x	
19	Are there any risks of physical changes of the terrain, soil pollution, sediment loads, erosion, etc.?	x		Physical changes of the terrain are minimal due to the fact that water treatment plant will be constructed in immediate surroundings of the existing WTP Letnica. Retaining wall and storm drainage will be used as measures against erosion
20	Will the project involve the use of pesticides or fertilisers?		x	

21	Are there any areas at or around the location that are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the Project?		x	
22	Will the project be located in or near some sensitive or protected area?		x	
23	Are there any areas or features of high landscape or scenic value at or around the location which could be affected by the Project?		x	
24	Will this project affect some critical habitats (forest, wetlands, marshlands, aquatic ecosystems)?		x	
25	Will this project affect some endangered plant/s?		x	
26	Will this project affect some endangered animal species?		x	
27	Is there a right of way issue or need for land acquisition?	x		The acquisition of one cadastral parcel was necessary to facilitate the expansion and ensure optimal and simultaneous operation of the old and new WTPs.
28	Are there any routes or facilities at or around the location which are used by the public for access to recreation or other facilities, which could be affected by the Project?	x		Access road to the existing WPT leads to the village of Letnica, there is no alternative way to the village
29	Are there any transport routes at or around the location that are susceptible to congestion or which cause environmental problems, which could be affected by the Project?		x	
30	Does the Project location cover a previously undeveloped area where there will be a loss of green field land?	x		The project will involve 0.4 hectares of underutilized agricultural land classified as Class V.
31	Are there existing land uses within or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying that could be affected by the Project?	x		A neighboring plot is situated near the project site; the contractor must take appropriate measures and limit the activity only within the framework of the investor's property.
32	Are there areas within or around the location which are densely populated or built up, that could be affected by the Project?		x	
33	Will the implementation of the project cause physical displacement of individuals, families or businesses?		x	
34	Will the project require a temporary or permanent land acquisition?	x		One privately owned cadastral parcel is expropriated
35	May the project cause an impact on community assets?		x	Project aims to improve community assets and their management
36	May the project cause an impact on community health and safety?		x	Project aims to improve community health and safety by providing safe drinking water