
**SERBIA EMERGENCY COVID-19
RESPONSE PROJECT**

**SUBPROJECT: CONSTRUCTION OF
A NEW DIAGNOSTIC BUILDING WITH
BSL-3 LABORATORY AT THE
“TORLAK” INSTITUTE OF
VIROLOGY, VACCINES AND SERA**

**ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN
(ESMP)
(APPENDIX-C)**

SEPTEMBER 2023

APPENDIX C-I
Environmental and Social Management Plan

Table 1. Construction Phase Environmental and Social Management Plan (ESMP)

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
POSITIVE IMPACTS								
	Employment Opportunities	WB ESS 2, WB ESS 4	Labor will be recruited from local community, and professionals will be recruited preferentially from such communities, provided that they have the requisite qualification, competence and desired experience.	Contractors	During construction	Part of the general contract cost	<ul style="list-style-type: none"> Staff Selection and Recruitment Procedure; HR Policy; Code of Conduct; Labour and Working Conditions Management Plan 	<ul style="list-style-type: none"> HR Policy is in place; Staff Selection and Recruitment Procedure is in place; Evidence of implemented measures related to local employment; Evidence of implemented measures related local procurement
	Income to construction material suppliers and contractors	WB ESS 2	The project will promote local procurement where technically or commercially reasonable and feasible.	Contractors	During construction	Part of the general contract cost	<ul style="list-style-type: none"> Purchase orders 	<ul style="list-style-type: none"> Evidence of related local procurement
NEGATIVE IMPACTS								
GENERAL								
C.1	Environmental and Social Management	WB ESS 1	The Contractor will be responsible for the development and implementation of the Contractor's Environmental and Social Management Plans. PCU will provide and/or hire resources for the environmental and social management of Project works. The list of management plans at the construction stage is determined by the ESIA report (Chapter 10).	Contractors PCU	Prior to the date when construction permit is obtained	• €20,000	• Plans and procedures - see Appendix	<ul style="list-style-type: none"> Relevant personnel are hired for the environmental and social management of Project Works; Site specific environmental and social plans/procedures are prepared; Evidence that relevant policies/plans are adopted by the Contractors; Monitoring records during construction; Training records prior to/during construction; Audit and inspection reports.
C.2	Permitting	WB ESS1 National legislation	All necessary permits/consents/approvals (including construction permit) will be obtained in accordance with the national legislation (e.g., environmental permits, licenses).	Contractors	Prior to the date when construction permit is obtained and as relevant during construction	• Part of the general contract cost	• Permit Register	<ul style="list-style-type: none"> Permit register is prepared; Permits are in place.
C.3	Construction methods	WB ESS 1	Method statements will be developed for major construction activities (such as earthworks, transportation of heavy equipment/material, etc.) in line with good practice to manage and monitor environmental and social issues during construction phase.	Contractors	Prior to each major construction activity throughout the construction	• Part of the general contract cost	• Method statements	<ul style="list-style-type: none"> Method statements are prepared.
GEOLOGY, SOIL AND CONTAMINATED LAND								
C.4	Seismic risk	WB ESS 1; WB ESS4; National legislation	<ul style="list-style-type: none"> The new building with BSL-3 at the Torlak Institute will be designed, constructed, and operated in accordance with the Law on Protection Against Natural Disasters (92/2015) and the Regulation on Technical Norms for Design and Construction in Seismic Areas (73/2018) for protection against seismic activity. For the design and construction all technically and financially feasible best practices will be followed to minimise relevant risks; 	Contractors	Prior to start of construction works during design phase. Construction works will be inspected in accordance with the relevant regulation through construction.	• Part of the general contract cost	<ul style="list-style-type: none"> Design and construction reports and drawings Seismic Risk Report Method statements Contractor's Environmental and Social Management Plan (C-ESMP); Disaster Management Plan including crisis management and unplanned events. 	<ul style="list-style-type: none"> Final design will be checked in accordance with the legislative requirements and project design criteria; Audit and inspection reports of PCU or appointed Consultant. Construction Permit from the Department for Urban Planning in City Administration

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C.5	Earthwork and protection of soil and groundwater from contamination	WB ESS 1; WB ESS 3; WB ESS 4; IFC General EHS Guidelines, National legislation	<ul style="list-style-type: none"> • Before the start of the excavation and construction activities, soil stripping will be undertaken at the footprint of the construction areas to remove the surface soil or topsoil (vegetation, fertile soil layer) and subsoil; • Stripped topsoil will be stored separately and used afterwards for site reinstatement; • All contractors will be required to adopt good construction practices for the protection of soil and follow the General WB EHS Guidelines. • Contaminated soils (if generated any) will be disposed of in an appropriately licensed disposal site; • Contractors will provide detailed information on handling various types of waste streams in the C-ESMPs and, where needed, will produce specialized plans for managing particular types of waste (e.g., Hazardous Material Management Plan); • Proper drainage systems shall be created which will remove the underground, surface and wastewater from the site. 	Contractors	• Throughout construction"	• Part of the general contract cost	<ul style="list-style-type: none"> • Contractor's Environmental and Social Management Plan; • Construction Emergency Preparedness and Response Plan; • Hazardous Material Management Plan; • Construction Machine and Equipment Procedure 	<ul style="list-style-type: none"> • Construction Emergency Preparedness and Response Plan is prepared; • Emergency spill kits are in place, in good condition and ready for use; • No contamination, leak or spill visible on site; • All tanks, equipment and vehicles are in intact condition and do not create any leaks; • Hazardous material storage registers are prepared; • Hazardous and non-hazardous waste disposal registers are prepared as well as records are kept properly; • Incident records; • Audit and inspection reports of PCU or appointed Consultant.
C.6	Spills/accidents and contaminated land	WB ESS 1; WB ESS 3; WB ESS 4; IFC General EHS Guidelines, National legislation	<ul style="list-style-type: none"> • In line with the WB's General EHS Guideline, ESS 4 Community Health and Safety, and IFC's EHS Guideline 1.8 Contaminated Land, the storage of chemicals, hazardous materials, and other potential contaminants will be kept to a minimum as feasible through inventory management in order to reduce or eliminate the potential onsite and off-site consequences of releases due to accidental and emergency incidents; • IFC's General EHS Guideline 1.5 Hazardous Material Management will be followed. Accordingly, the following measures will be taken: • Drummed hazardous materials with a total volume equal or greater than 1,000 L will be stored in areas with impervious floor that are sloped or bermed to contain a minimum of 25% of the total storage volume. Drip trays will be used for fuelling mobile equipment; • Appropriate secondary containment structures consisting of berms, dikes, or walls to contain at least 110 percent of the largest tank or 25% percent of the combined tank volumes will be provided. Secondary containment will be made of impervious, chemically resistant material; • Any spillages from handling fuel and 	Contractors	Throughout construction	€1,000	<ul style="list-style-type: none"> • Contractor's-Environmental and Social Management Plans; • Construction Emergency Preparedness and Response Plan; • Hazardous Material Management Plan; • Construction Machine and Equipment Procedure 	<ul style="list-style-type: none"> • Construction Emergency Preparedness and Response Plan is prepared; • Emergency spill kits are in place, in good condition and ready for use; • No contamination, leak or spill; • All tanks, equipment and vehicles are in intact condition and do not create any leaks; • Hazardous material storage registers are prepared; • Designated hazardous material and waste storage areas are constructed according to the defined mitigation measures as well as standards; • Training records; • Incident records; • Audit and inspection reports of PCU or appointed Consultant.

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			liquids will be immediately contained on site and the contaminated soil will be removed from the site for suitable treatment and disposal. <ul style="list-style-type: none"> • Operation of a closed drainage system and implementation of Emergency Preparedness and Response Plan in the event of spills, fire etc. will prevent significant impacts on soil. 					
WATER AND WASTEWATER MANAGEMENT								
C.7	Water and wastewater management	WB ESS 1; WB ESS 3; WB ESS 4; WBG General EHS Guidelines National legislation	<ul style="list-style-type: none"> • Water use will be provided by ensuring resource efficiency. • Domestic water from workers will be directed to the current sewage network or stored in impermeable septic tank as wastewater to be transferred with authorized septic trucks and sent to be disposed of at nearest WWTP deemed appropriate by City of Belgrade Waterworks and Sewerage; , • If septic tank is used, regular tank integrity tests will be conducted to prevent any failure and leakage from the tanks; • A stormwater and wastewater drainage and collection system will be established on site to collect and manage uncontaminated and contaminated drainages separately. 	Contractors	Throughout construction	Part of the general contract cost	<ul style="list-style-type: none"> • Constructor's Environmental and Social Management Plan; • Construction Surface Water and Wastewater Management Plan; 	<ul style="list-style-type: none"> • Construction Surface Water and Wastewater Management Plan is prepared and implemented; • Project approvals are in place for septic tanks; • Register for wastewater discharges; • Wastewater discharge transfer records and permit is in place; • Incident records; • Audit and inspection reports of PCU or appointed Consultant.
WASTE MANAGEMENT								
C.8	Waste Generation and Management	WB ESS 1; WB ESS 3; WBG General EHS Guidelines National legislation	<ul style="list-style-type: none"> • All the waste will be collected, segregated, labelled and stored on site according to the requirements by relevant national regulations which address waste minimisation, segregation, labelling, storage, transportation and recycling/disposal; • Before the construction activities Contractor will prepare a site-specific Waste Management Plan (WMP) for construction phase in line with the provisions of National Legislation and IFC EHS guidelines; • Whenever possible, priority will be given to minimise the amount of waste and raw material use through recovery and re-use of raw materials; • Appropriate containment shall be used during temporary storage of wastes. • Record keeping will be done for all waste generation, storage onsite and offsite waste transportation activities to third party waste management facilities. • Periodic inspections will be conducted in the waste recycling/disposal facilities to ensure proper disposal practices are implemented. 	Contractors	Throughout construction	€1,000	<ul style="list-style-type: none"> • Contractor's Environmental and Social Management Plan; • Waste Management Plan; 	<ul style="list-style-type: none"> • Waste management plan is prepared and implemented; • All wastes are separately collected, segregated, labelled and stored in designated areas; • Waste register including type, amount, disposal method, transfer record and disposal site is prepared. • All wastes are transferred and/or disposed to licenced /permitted disposal sites or companies. • Waste disposal sites/companies are periodically (two times a year) audited by the Project Owner or subcontractor. • Training records. • Audit and inspection reports of PCU or appointed Consultant.

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			<ul style="list-style-type: none"> • Mitigation measures during the land preparation and construction phase of the Project are as follows, <ul style="list-style-type: none"> ○ Identify waste collection and disposal pathways for all major waste types expected from demolition and construction activities, ○ Separate mineral construction and demolition wastes from general refuse, organic, liquid, and chemical wastes by on-site sorting and stored in appropriate containers, ○ Collect construction waste and dispose properly to the designated locations, ○ Whenever feasible, reuse and recycle appropriate and viable materials (except asbestos). ○ Temporarily store all hazardous or toxic substances on site in safe containers labelled with details of composition, properties, and handling information, ○ Place containers of hazardous substances in leak-proof containers to prevent spillage and leaching, ○ Transport waste to official landfills and dispose excess excavated material at sites agreed with the local authorities, ○ Do not use paints with toxic ingredients or solvents, or lead-based paints. • If asbestos is located on Project Area, mark it clearly as hazardous material, <ul style="list-style-type: none"> ○ When possible, appropriately contain and seal asbestos to minimize exposure, ○ Treat asbestos prior to removal (if removal is necessary) with a wetting agent to minimize asbestos dust, ○ Handle and disposed asbestos using skilled & experienced professionals, ○ If asbestos material is being stored temporarily, securely enclosed it inside closed containments and mark appropriately. Take security measures against unauthorized removal from the area, ○ Do not reuse the removed asbestos. 					
AIR QUALITY								

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
C.9	Dust emissions during construction	WB ESS3,ESS4 IFC General EHS Guidelines, National legislation	<p>An Air Quality and Noise Management Plan will be prepared to include mitigation measures that will be taken to reduce the dust emissions during construction:</p> <ul style="list-style-type: none"> Minimal particulate emission from the construction activities will be maintained by good management and housekeeping practices and use of dust suppression methods. Water spraying will be performed at dust generating areas inside the Project site especially during dry weather conditions; Where high dust emission cannot be prevented particularly due to wind effect and at locations close to the residential areas in addition to the water spraying polymer emulsions (approved chemical dust suppressants) will be used for dust suppression, particularly at the temporary Excavated Material Storage Areas, on stockpiles, slopes, on the temporary unpaved, or earth roads within the Project site; Where necessary, in order to minimise the fugitive dust transport to the residential areas wind breaks or barriers will be installed around the storage piles, particularly in the temporary Excavated Material Storage Areas; Excavated soils will be stockpiled (as necessary) at designated areas and will be placed as far as possible from the settlements in the west. Dusty and loose materials will be properly covered or top layers will be kept moist; Screens will be placed as necessary at the construction site to reduce dust emissions. <p>The following mitigation measures will be implemented to minimize dust emissions related to transport of materials during construction:</p> <ul style="list-style-type: none"> Vehicle speed limits will be applied and outside the Project site for paved and unpaved roads (e.g., unpaved roads around 10km/h, paved roads around 20 km/h within the site). Truck operators will be trained to comply with speed limits and good construction site practices; Transfer roads will be sprayed with water as necessary (for example using mobile bowsers) to prevent significant dust emissions especially in dry weather conditions; Open top trucks carrying excavated 	Contractors	Throughout construction	€3,000	<ul style="list-style-type: none"> Contractor's Environmental and Social Management Plan; Air Quality and Noise Management Plan; Construction Site Traffic Management Plan. 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan is prepared and implemented; Air quality monitoring are performed at nearest receptors defined in ESIA; Monitoring results are recorded; Training records. Incident records; Grievance records on air quality; Audit and inspection reports of PCU or appointed Consultant.

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			soils will be covered before leaving the construction area; <ul style="list-style-type: none"> The material drop distance will be limited between the offloading point and stockpile to no more than 1 m and the flow of material will be restricted using dead boxes, socks, drop down spouts/sleeves; Frequently used and long-term haulage roads will be paved (e.g., asphalt, concrete, etc.); Daily visual inspections will be done at the stockpiles, haulage roads and during the heavy vehicle movements in order to detect dust emission sources; Air pollutants will be monitored at nearby sensitive locations to ensure minimal impacts in accordance with the Air Quality and Noise Management Plan. It is suggested to undertake PM10 measurements during earthworks monthly. 					
C.10	Exhaust emissions during construction	WB ESS3, ESS4, IFC General EHS Guidelines, National legislation	<ul style="list-style-type: none"> The construction equipment and trucks will be maintained regularly to keep them in good working condition to minimize exhaust emissions caused by poor performance; Low sulphur fuel will be used as far as possible; Engines of the equipment/trucks will be prevented from idling and running unnecessarily; Unnecessary Project traffic will be avoided inside and outside of the Project side by adequate planning of material transport; A Construction Site Traffic Management Plan will be prepared and implemented which will decrease the impacts of the construction traffic. This, in turn, will lower the exhaust emissions from the truck movements. 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Contractor's Environmental and Social Management Plan; Air Quality and Noise Management Plan Construction Machine and Equipment Procedure; Construction Site Traffic Management Plan. 	<ul style="list-style-type: none"> Construction Site Traffic Management Plan is prepared and implemented; Vehicle /machinery / equipment inspection records are in place. Register regarding vehicle /machinery /equipment, fuel type, and monthly use amount is in place. Training records of operators and drivers on fuel use and exhausted emission control; Audit and inspection reports of PCU or appointed Consultant.
NOISE AND VIBRATION								
C.11	Noise	WB ESS3, ESS4, IFC General EHS Guidelines, National legislation	High noise generating activities such as excavation will be performed and heavy machinery will be operated during the day-time; Air Quality and Noise Management Plan will be developed to cover the following mitigation measures during the construction phase in order to ensure that noise limit values set in the standards are met: <ul style="list-style-type: none"> 'Low-noise' equipment will be used during construction phase as far as possible. Where construction equipment is provided with sealed acoustic covers or enclosures, these 	Contractors	Throughout construction	€1,500	<ul style="list-style-type: none"> Contractor's Environmental and Social Management; Air Quality and Noise Management Plan; Construction SiteTraffic Management Plan 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan is prepared and implemented; Consent regarding construction activities performed during evening and night time is in place; Noise monitoring studies are performed at nearest receptors defined in ESIA; Monitoring results are recorded; Training record; Incident records; Monitoring records; Grievance records on noise and

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			will be kept closed whenever the machines are in use; • Machines will be shut down or throttled down to a minimum when not in operation; • Maintenance procedures will be implemented in order to keep equipment in good working condition to minimise extraneous noises caused by poor performance; • Noisy activities taking place within construction sites will be located away from the residential areas as far as possible; • Noise related to construction traffic will be properly managed through implementation of a Construction Site Traffic Management Plan; • On-site structures such as containers, offices, hoardings will be used to screen sensitive receptors from noise sources as far as possible. Where necessary movable noise barriers (2-2.5 m high) will be used to ensure receptor noise levels are less than the limit values adjacent to noisy activities; • Awareness will be increased among construction workers regarding noise mitigation; • Noise measurements will be conducted monthly during construction phase. • It is important to note that noise monitoring may be undertaken more frequently, if there is significant number of complaints from stakeholders; • An efficient grievance mechanism will be established to collect complaints from the local residents regarding the noise and vibration in order to prevent any discontent by the local communities.					vibration; • Audit and inspection reports of PCU or appointed Consultant.
TRAFFIC								
C.12	Traffic	WB ESS4	• A Construction Traffic Management Plan (TMP) which includes mitigation measures to ensure traffic safety will be prepared. • Entrances and exits of the Project Area will be managed with sight distances; • There will be signboards around the Project Area giving contact addresses for traffic related incidents that may arise from the Project; • Vehicle operators will be trained on traffic safety; • Information brochures will be distributed in settlements close to the Project area;	Contractors	Throughout construction	€500	• Traffic Management Plan	• Construction Traffic Management Plan is prepared and implemented; • Evidence that Construction TMP requirements are cascaded to contractors; • Evidence of regular monitoring of the implementation of the Construction TMP; • Evidence of consultations with affected communities and authorities; • Evidence that affected communities are informed about the grievance mechanism; • Evidence of regular monitoring of the

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			<ul style="list-style-type: none"> Measures will be taken to ensure the safety of residents at MZ Jajinci and residents will be duly informed. These measures will be implemented especially during working hours traffic. These measures will be planned in coordination with relevant public authorities; Shuttle services will be provided for workers to reduce traffic congestion caused by construction; Roads outside the scope of the Traffic Management Plan will not be used; Drivers of construction vehicles will receive traffic training including rules to be followed and community sensitivities; Drivers' police records will be reviewed prior to recruitment; Contractor will adopt a zero tolerance policy regarding on the job alcohol consumption of drivers, including immediate termination of the labour contract in case of violation; Local residents of Kumodraz-1 and MZ Jajinci living near Vodice and Zavodska streets will be informed at least 1 month prior to construction works. 					implementation of the Construction TMP; <ul style="list-style-type: none"> Evidence of consultations with affected communities and authorities; Evidence that affected communities have been informed about the grievance mechanism.
BIODIVERSITY								
C.13	Habitats	WB ESS3, Best Practice, National legislation	<ul style="list-style-type: none"> Prior to the land preparation phase, definite working areas will be set up where activities and permanent structures will be established and the clearance of vegetation will be limited to the strip of land needed for the occupation of the project and the adjacent working width All areas that have been cleared of vegetation and/or where the soil surface has been disturbed need rehabilitation of the vegetation to minimise the establishment of alien invasive species Any invasive flora species will be prevented from entering the project area and its surroundings. For this purpose, especially the tools used for plant cleaning and/or plant transfer will be washed/cleaned before use, Revegetation of disturbed sites will be implemented within the same spring season, or within the upcoming spring season for disturbances occurring during the dry season. Project workers will not be allowed to bring any live animals or plants into the construction site to avoid the risk of 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Biodiversity Management Plan Invasive Species Management Plan 	<ul style="list-style-type: none"> Biodiversity Management Plan is prepared and implemented Invasive Species Management Plan is prepared and implemented Monitoring results are recorded; Incident records; Audit and inspection reports.

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			pest/invasive species establishing in the Project Area, <ul style="list-style-type: none"> Invasive species will not be used in replanting/reseeding works to be carried out due to the project. It should be ensured that the species to be used in replanting/reseeding studies are not invasive. In case of encountering an invasive species in the project area, extermination methods will be applied within the scope of the Invasive Alien Species Management Plan to be prepared. 					
C.14	Flora		<ul style="list-style-type: none"> Prior to the land preparation phase, definite working areas will be set up where activities and permanent structures will be established and the clearance of vegetation will be limited to the strip of land needed for the occupation of the project and the adjacent working width Dust emissions will be avoided and/or minimized by lightly watering the immediate surroundings of construction sites, and wetting the stored material, Measures to reduce dust and air pollution are provided in Chapter 7.4 Air Quality for details, 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Biodiversity Management Plan 	<ul style="list-style-type: none"> C-ESMP is prepared and implemented Monitoring results are recorded; Incident records; Audit and inspection reports of PCU or appointed Consultant.
C.15	Fauna		<ul style="list-style-type: none"> During the construction, there may be a risk of disturbance or even damage to the fauna components living in the project area and even choosing the area as a breeding ground. In case the activities coincide the breeding period, there may be loss of nests, eggs, or nestlings. To prevent losses that may occur in this way, attention will be paid to the timing of the works, and this tree or bush form cuttings will be avoided during the breeding period; or before clearance and assembling, it will be ensured that wild fauna components are not found in these sections or that they are removed. While carrying out these procedures, support will be sought from persons or organizations who are experts in the subject. After cleaning the ground and transporting the amphibians, reptiles and mammals encountered on the construction site, surface soils will be striped carefully. While stripping, some amphibians, reptiles and mammals may be seen again in excavated soil. All these animals will be collected and transported to a suitable nearby habitat. If the beginning of the activity coincides with the general breeding period (mid- 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Biodiversity Management Plan 	<ul style="list-style-type: none"> C-ESMP is prepared and implemented Monitoring results are recorded; Incident records; Audit and inspection reports of PCU or appointed Consultant.

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			<p>April to the end of June), precautions will be taken to keep wild forms away from possible nests or breeding areas in the areas that will be affected by the activity. One of the simplest and easiest to implement of these measures is to mark the nest or breeding areas with moving bright bands at the beginning of the breeding season. These visual repellents will prevent animals from choosing these areas as nesting sites. In order to serve this purpose, the entrances of the works, which are used as nests in some sections, can be blocked with wire mesh or material that will serve the same purpose,</p> <ul style="list-style-type: none"> • Construction work will be done gradually so that it will have enough time to escape for possible fauna species to be found, • If there is a nest of bird species, the nest will be marked with a safety strip about 3 meters in diameter and an expert ornithologist will be informed, • If there is a species that has limited mobility, transfer to safer locations if encountered during construction, • Construction sites will be fenced in order to prevent fauna species' entrance into these areas. • Measures to reduce noise are provided in Chapter 7.5 Noise for details, 					
CULTURAL HERITAGE								
C.16	Cultural heritage, chance finds	WB ESS8, National Legislation	<ul style="list-style-type: none"> • Chance Find Procedure will be prepared which defines actions to be taken if any cultural heritage is encountered during construction works. 	Torlak Institute of Virology, Vaccines and Sera Contractors	Throughout construction	<ul style="list-style-type: none"> • Part of the general contract cost 	<ul style="list-style-type: none"> • Chance Find Procedure 	<ul style="list-style-type: none"> • CHP is prepared and implemented; • CHP is cascaded to contractors; • Evidence that subcontractors also implement the provisions of the above-mentioned procedure.
SOCIO-ECONOMICS								
C.17	Economy and employment	Loss of Livelihood risks are caused by traffic and dust. Please see lines C.12 and C.14						
COMMUNITY HEALTH, SAFETY AND SECURITY								
C.18	Community health, safety, and security	WB ESS4, WB ESS10	<ul style="list-style-type: none"> • Implementation of good construction site practices in line with national regulations and international guidelines as outlined in the Construction Site Management Plan to be developed by the contractor; • Developing and implementing the Community Health and Safety Plan and the Security Plan; • Developing and implementing the Emergency Preparedness and Response Plan; • Strict adherence to the design codes and standards; 	Contractors	Throughout construction	<ul style="list-style-type: none"> • Included in ESMS cost 	<ul style="list-style-type: none"> • C-ESMPs; • Emergency Preparedness and Response Plan; • Community Health and Safety Plan. 	<ul style="list-style-type: none"> • CHS Plan is in place; • Code of Conduct is in place; • Other described plans are in place; • Evidence that described documents are cascaded down to Project contractors and implemented; • Evidence that grievance mechanism is implemented and that affected communities and other stakeholders are adequately informed on its functioning.

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			<ul style="list-style-type: none"> Keeping ongoing consultation with communities and stakeholders; Monitoring feedbacks and grievance received from communities and stakeholders. 					
C.19	<ul style="list-style-type: none"> Emergency Preparedness and Response 	<ul style="list-style-type: none"> WB ESS4, WB ESS10 	<ul style="list-style-type: none"> Emergency Preparedness and Response Plan will include among others emergency response procedures, first aid and emergency medical treatment, emergency resources, roles and responsibilities, action and equipment list, communication and community notification systems, training requirements. 	<ul style="list-style-type: none"> Contractors 	<ul style="list-style-type: none"> Throughout the construction stage 	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Emergency Preparedness and Response Plan 	<ul style="list-style-type: none"> Emergency Preparedness and Response Plan is in place
C.20	Dust, noise and traffic impacts on the nearby community	WB ESS4	<ul style="list-style-type: none"> Air Quality and Noise Management Plan will be prepared and implemented during the construction phase of the Project; A Community Health and Safety Plan (CHS) will be developed and implemented , The Contractor will develop and implement Construction Site Traffic Management Plan (TMP). Mitigation measures to minimize the construction phase impacts on the community health and safety regarding dust, noise and traffic are provided in C.9, C.10 and C.11. 	Contractors	Throughout the construction stage	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan; Community Health, Safety and Security Plan; Construction Site TMP; Emergency Preparedness and Response Plan. 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan is in place; CHS is in place; Construction Site TMP is in place; Evidence that described documents are cascaded down to Project (sub)contractors and implemented; Evidence that grievance mechanism is implemented and that affected communities and other stakeholders are adequately informed on its functioning.
C.21	Security	WB ESS4	<ul style="list-style-type: none"> A special Code of Conduct for the guidance and counselling of the Security Personnel will be prepared; International best practice will be applied for hiring, training and mobilising security staff. Project Owner will ensure that security personnel have not been involved in past abuses and are adequately trained. Force will only be sanctioned in preventive or defensive circumstances in proportion to the threat and security will operate within the law; The grievance mechanism will allow communities and workers to express concerns regarding security issues and behaviour of security personnel. The construction site will be fenced or provided with barriers to provide restricted access. Warning signs and/or other visual measures will be provided as required for the construction site borders. 	Contractors	Throughout the construction stage	<ul style="list-style-type: none"> Part of the general contract cost 	<ul style="list-style-type: none"> Code of Conduct 	<ul style="list-style-type: none"> Code of Conduct; Evidence that these documents are cascaded down to Project contractors and implemented; Evidence that grievance mechanism is implemented and that affected communities and other stakeholders are adequately informed on its functioning.
C.22	Community misperception	WB ESS4	<ul style="list-style-type: none"> Implementation of the SEP; 	Torlak Institute of	Throughout the project's lifetime	<ul style="list-style-type: none"> Part of the general 	<ul style="list-style-type: none"> Stakeholder Engagement Plan 	<ul style="list-style-type: none"> Grievance record

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			<ul style="list-style-type: none"> Maintaining effective communication throughout the life of the project; Implementation of the grievance mechanism. 	Virology, Vaccines and Sera		contract cost		
LABOUR AND WORKING CONDITIONS								
C.23	Labour and working conditions including discrimination	WB ESS2, National Legislation	<ul style="list-style-type: none"> Contractor staff to work on the Project will also be recruited in accordance with this policy and equal rights and conditions for all employees will be ensured; Labour Management Procedure will be developed and implemented for the Project construction stage; Equal conditions for all employees will be guaranteed by the HR policy and Labour Management Procedure; All mitigation measures provided within the scope of the Project also apply supply chain employees. The The Contractors will ensure that international standards are applied to the entire Project workforce (including subcontractors' employees) and where Serbian legislation differs from international standards, the stricter one will be applied for the Project; All prohibitions on child labour and forced labour will be stated in the HR policy; There will be no discrimination or reprisals against workers who are members of these trade unions and participate in collective bargaining. The right of employees to join trade unions and bargain collectively shall be guaranteed by the HR policy; In the event of dismissal in accordance with international legislation, the Contractors, in consultation with workers, their organisations and in some cases the government, will develop a plan to mitigate the adverse effects of dismissal on workers. Information on redundancy will be provided in the HR policy; Workers will have contracts in place prior to commencement of work setting out their working conditions, terms of employment and EHS responsibilities. 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Labour Management Procedure; Staff Selection and Recruitment Procedure. 	<ul style="list-style-type: none"> Labour and Working Conditions Management Plan is in place and implemented; Evidence of implementation of the Staff Selection and Employment Procedure; Evidence of implementation of the grievance mechanism.
C.24	Worker Grievance Mechanism	WB ESS2	<ul style="list-style-type: none"> Worker Grievance Mechanism will be developed and will: <ul style="list-style-type: none"> be open to all the Project workers (including sub-contractors' workers); be easily accessible by workers; be free of retribution; allow anonymous complaints to be 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Worker Grievance Mechanism 	<ul style="list-style-type: none"> Labour Management Procedure is prepared; Worker Grievance Mechanism in Place; Evidence showing that contractors adopted relevant procedures regarding Worker Grievance Mechanism;

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			raised and addressed; • Employees will be informed about this mechanism at the time of hiring and through regular training.					• Training records on Worker Grievance Mechanism; • Grievance Boxes and forms are in place; • Grievance database / Register in place (including records of grievances, corresponding responses and resolution measures).
C.25	Occupational health and safety	WB ESS2, National Legislation,	<ul style="list-style-type: none"> • The Labour Management Procedure developed in line with applicable national health and safety legislation and international standards (WB ESS2) which specifies the policies and procedures to be followed during project implementation to minimize and prevent labor and OHS risks to project workers will be implemented ; • A Contractor's OHS Management Plan will be developed and implemented to ensure occupational health and safety standards are met at workplaces in line with national occupational health and safety legislation and ESS2 OHS requirements; • A thorough job hazard analysis to identify and assess potential hazards and risks will be conducted; Workers will be provided with safety briefings every day before the work starts and provided with necessary personal protective equipment (such as hard hats, safety glasses, gloves, and protective footwear); • Work permits will be required for high-risk activities such as working at height, operation of heavy equipment and similar; • Safety procedures and guidelines for working in confined spaces will be established and enforced; • Safety measures to prevent falls from heights, such as guardrails, safety nets, and personal fall arrest systems will be implemented; • All equipment and machinery including electrical installations will be regularly maintained and inspected; • Hazardous materials will be stored and labelled to prevent exposure and contamination; • Safety procedures and guidelines will be established and enforced for working in extreme temperatures and weather 	Contractors	Throughout construction	€5,000	<ul style="list-style-type: none"> • Labour Management Procedure; • Worker Grievance Mechanism 	<ul style="list-style-type: none"> • Training records; • Incident and accident records; • Daily toolbox talks' records; • Internal and external audit reports; • Evidence of providing proper and sufficient PPE for the workers; • Work permit procedure is in place. • Records on work permits.

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			conditions; <ul style="list-style-type: none"> Regular safety audits and inspections to identify potential hazards and risks will be conducted; Appropriate warning/signing will be provided within the construction site indicating dangerous areas; All workers (including subcontractors) will be trained on health and safety, and Emergency Preparedness and Response Plan to respond timely to the incidents. Emergency Preparedness and Response Plan will include among others emergency response procedures, first aid and emergency medical treatment, emergency resources, roles and responsibilities, action and equipment list, communication and community notification systems, training requirements. All accidents and incidents will be recorded; The efficiency of health and safety practices will be monitored through internal and external audits and corrective actions will be taken if required. 					
C.26	Contractors and suppliers	WB ESS2	<ul style="list-style-type: none"> Contractors will also be required to follow the requirements of WB ESS2. Contracts to be signed with subcontractors will include EHSS requirements. 	PCU Contractors	Throughout construction	<ul style="list-style-type: none"> Part of the general contract cost 	<ul style="list-style-type: none"> Labour Management Procedure; Worker Grievance Mechanism. 	<ul style="list-style-type: none"> HR Policy is in place; Evidence that described documents are cascaded down to Project contractors and implemented.
C.27	Gender Based Violence (GBV), Sexual Exploitation and Abuse and Sexual Harassment (SEA and SH).	WB ESS2	<ul style="list-style-type: none"> All Project Workers, including subcontractors, will sign the Code of Conduct upon commencement of work, together with their employment contract, which includes punitive measures against GBV, SEA and SH. 	Contractors	Throughout construction	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Labour Management Procedure; Code of Conduct; Worker Grievance Mechanism. 	<ul style="list-style-type: none"> Training records; Internal and external audit reports; Grievance database / Register in place (including records of grievances, corresponding responses and resolution measures); Evidence that described documents are cascaded down to Project contractors and implemented.
STAKEHOLDER ENGAGEMENT								
C.28	Information Disclosure/ Stakeholder Engagement/Public Grievances	WB ESS10	<ul style="list-style-type: none"> Implement Stakeholder Engagement Plan (SEP) and Grievance Mechanism; SEP to be updated annually and if there are significant changes in the Project; Publicise SEP and Grievance Mechanism, including information on contact details of responsible staff to handle grievances. Social expert shall be appointed to monitor surrounding communities' complaints related to the construction activities and maintain relationships with 	PCU Contractors	Throughout construction	€5,000	<ul style="list-style-type: none"> Communication Plan; Stakeholder Engagement Plan. 	<ul style="list-style-type: none"> SEP is prepared and implemented; ESIA and SEP are disclosed at the Project website and available at Project Offices; Evidence showing that stakeholder engagement activities (i.e. meeting notes with stakeholders, announcements regarding traffic, construction schedule, employment opportunities etc.) are performed according to the SEP; Evidence that SEP is regularly

Appendix C - ESMP

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			affected communities.					reviewed and updated; • Evidence showing that affected communities and other stakeholders are effectively informed on the grievance mechanism; • Grievance database / Register in place (including records of grievances, corresponding responses and resolution measures)

Table 2. Operation Phase Environmental and Social Management Plan (ESMP)

	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
POSITIVE IMPACTS								
	Improved medical surveillance services		Construction of BSL 3 laboratory will improve diagnostics capacity of Torlak Institute of Virology, Vaccines and Sera.	Torlak Institute of Virology, Vaccines and Sera	Throughout the operation	• Within the annual operation budget	• BSL3 laboratory operation manual, procedures, SOPs etc.	Evidence that relevant policies/plans are in place
NEGATIVE IMPACTS								
GENERAL								
O.1	Environmental and Social Management system	WB ESS 1	Operation phase Environmental and Social Management System (ESMS) will be developed in line with international good practice and guidelines (i.e., ISO 14001: 2004 – Environmental Management System, ISO 45001: 2018– Occupational Health and Safety Management System). The list of management plans at the operation stage is determined by the ESIA document (Chapter 10) and is also provided at the appendix of this document.	Torlak Institute of Virology, Vaccines and Sera	Prior to operation and throughout the operation.	€40,000	<ul style="list-style-type: none"> • EHSS Policy • HR Policy • Plans and procedures - see Appendix 	<ul style="list-style-type: none"> • EHSS Policy and HR Policy are in place; • Relevant personnel are hired for the implementation of the ESMS; • Site specific environmental and social plans/procedures are prepared; • Relevant policies/plans are in place; • Monitoring records during operation; • Training records prior to/during operation; • Audit and inspection reports.
O.2	Permitting	WB ESS1 National legislation	All necessary permits/consents/approvals will be obtained in accordance with the national legislation.	Torlak Institute of Virology, Vaccines and Sera	Prior to the date when temporary operation permit is obtained and as relevant during operation	• Within the annual operation budget	• Permit Register	<ul style="list-style-type: none"> • Permit register is prepared; • Permits are in place. (i.e. Building Permit, Operation Permit etc.)
O.3	Life and Fire Safety (- Impact of fire outbreak)	WB ESS2, ESS4	<p>Life and fire safety plan will be prepared in line with national legislation and international standards.</p> <p>Life and fire safety systems will be tested, commissioned and certified to ensure that the construction of life and fire safety system has been carried out in accordance with the accepted design.</p> <p>Fire fighting equipment will be available and accessible at defined areas. All fire fighting equipment will be regularly maintained and inspected.</p> <p>Fire alarm system will be installed.</p> <p>Warnings, instructions and escape routes will be displayed within the building.</p> <p>Emergency contact numbers will be displayed within the building.</p> <p>Training of personnel and regular fire fighting drills will be provided.</p> <p>It will be ensured that adequate emergency evacuation plan, training plan, regular checking of life and fire safety systems are in place for operation phase.</p> <p>All provisions for disability access will be in place in compliance with international standards.</p>	Torlak Institute of Virology, Vaccines and Sera	Prior to operation.	€7,500	• Emergency Preparedness and Response Plan.	<ul style="list-style-type: none"> • Operation Emergency Preparedness and Response Plan is prepared and implemented. • Life and Fire Safety Plan and certificate are in place.
GEOLOGY, SOILS AND CONTAMINATED LAND								
O.4	Spills/accidents and contaminated land (General)	WB ESS 1; WB ESS 3; WB ESS 4; IFC General EHS Guidelines, National legislation	• Hazardous and non-hazardous materials and wastes during operation will be handled according to the Environmental and Social Management System to be prepared by Project Owner and where needed, further site-specific management plans will be developed (e.g., Hazardous Material Management Plan);	Torlak Institute of Virology, Vaccines and Sera	Throughout operation.	€1,000/annual	<ul style="list-style-type: none"> • Environmental and Social Management Plan; • Operation Emergency Preparedness and Response Plan; • Operation Hazardous Material Management 	<ul style="list-style-type: none"> • Operation Emergency Preparedness and Response Plan is prepared; • Emergency spill kits are in place, in good condition and ready for use; • Periodic (e.g., daily and/or weekly) facility inspections are performed to check any contamination, leak or spill;

	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			<ul style="list-style-type: none"> • Drummed hazardous materials with a total volume equal or greater than 1,000 L will be stored in areas with impervious floor that are sloped or surrounded with berms to contain a minimum of 25 % of the total storage volume. Drip trays will be used for fuelling mobile equipment; • Appropriate secondary containment structures consisting of berms, dikes, or walls to contain at least 110 percent of the largest tank or 25% percent of the combined tank volumes will be provided. Secondary containment will be made of impervious, chemically resistant material; • Any spillages from handling fuel and liquids will be immediately contained on site and the contaminated soil will be removed from the site for suitable treatment and disposal; • Secondary containment, drip trays or other overflow and drip containment measures shall be provided, for hazardous materials containers at connection points or other possible overflow points; • Operation of a closed drainage system and implementation of Emergency Preparedness and Response Plan in the event of spills, fire etc. will prevent significant impacts on soil: <ul style="list-style-type: none"> ○ In line with the preferred strategy of the reduction of the contamination level (EHS Guideline 1.8 Contaminated Land), the storage of chemicals, hazardous materials, and other potential contaminants will be kept at a minimum as practically feasible for the operation works. 				Plan;	<ul style="list-style-type: none"> • Periodic (e.g., daily and/or weekly) site inspections are performed to ensure all tanks, equipment and vehicles are in intact condition and do not create any leaks; • Hazardous material storage registers are prepared; • Designated hazardous material and waste storage areas are constructed according to the defined mitigation measures as well as standards; • Training records; • Incident records; • Audit and inspection reports.
WATER AND WASTEWATER MANAGEMENT								
O.5	Water and wastewater management	WB ESS 1; WB ESS 3; WB ESS 4; WHO Laboratory Biosafety Manual 4 th Edition EHS Guideline for Health Care Facilities National legislation	<ul style="list-style-type: none"> • Water use will be provided by ensuring resource efficiency. • Discharge of sanitary wastewater and wastewater from utility operations treatment systems should: <ul style="list-style-type: none"> ○ Meet the pre-treatment and monitoring requirements of the sewer treatment system into which it discharges. ○ Not interfere, directly or indirectly, with the operation and maintenance of the collection and treatment systems, or pose a risk to worker health and safety, or adversely impact characteristics of residuals from wastewater treatment operations. ○ Be discharged into municipal or centralized wastewater treatment systems that have adequate capacity to meet local regulatory requirements for treatment of wastewater generated from the project. ○ Pre-treatment of wastewater to meet regulatory requirements before discharge from the project site is required if the municipal or centralized wastewater treatment system receiving wastewater from the project does not have adequate capacity to maintain regulatory compliance. • The complex will have two separate wastewater networks for management of BSL3 activity related 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€5,000	<ul style="list-style-type: none"> • Environmental and Social Management Plan; • Waste and Wastewater Management Plan (including Medical Waste Management Plan) • Pollution Prevention Plan 	<ul style="list-style-type: none"> • Register for wastewater discharges; • Wastewater discharge permit is in place; • Incident records; • Analyses records • Audit and inspection reports.

Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria	
		<p>waste effluent and domestic waste effluent. The BSL3 activity related waste will be collected into a leak proof storage tank whose filling capacity will be auto monitored so as not to exceed ¾ full. The wastewater will then be steam sterilised using the liquid cycle of the autoclave connected to the storage tank.</p> <ul style="list-style-type: none"> The wastewater monitoring program should consider the following elements: <ul style="list-style-type: none"> The monitoring parameters should indicate the pollutants of concern from the process, and should include parameters that are regulated under compliance requirements; The monitoring of discharges from processes with batch manufacturing or seasonal process variations should take into consideration of time-dependent variations in discharges and, therefore, is more complex than monitoring of continuous discharges. Effluents from highly variable processes may need to be sampled more frequently or through composite methods. Grab samples or, if automated equipment permits, composite samples may offer more insight on average concentrations of pollutants over a 24-hour period. Composite samplers may not be appropriate where analytes of concern are short-lived (e.g., quickly degraded, or volatile). The monitoring locations should be selected according to the bio risk management for the work carried out. The monitoring programs should apply internationally approved methods for sample collection, preservation, and analysis. 						
WASTE MANAGEMENT								
O.6	Waste Generation and Management	WB ESS 1; WB ESS 3; EHS Guideline for Health Care Facilities WHO Laboratory Biosafety Manual 4 th Edition National legislation	<ul style="list-style-type: none"> All the waste will be collected, segregated, labelled and stored on site according to the requirements by relevant national regulations which address waste minimisation, segregation, labelling, storage, transportation and recycling/disposal; Whenever possible, priority will be given to minimise the amount of waste and raw material use through recovery and re-use of raw materials; Appropriate containment shall be used during temporary storage of wastes. Record keeping will be done for all waste generation, storage onsite and offsite waste transportation activities to third party waste management facilities. Periodic inspections will be conducted in the waste recycling/disposal facilities to ensure proper disposal practices are implemented. Before the activities, Project Owner will prepare a site-specific Waste Management Plan (WMP) for operation phase in line with the provisions of National Legislation, IFC EHS guidelines and WHO Laboratory Biosafety Manual 4th Edition; BSL-3 laboratories will be equipped for decontamination of laboratory waste using an autoclave. If infectious waste is transported out of the laboratory, it should be transported in unbreakable 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€500 (initial investment)	<ul style="list-style-type: none"> Environmental and Social Management Plan; Waste and Wastewater Management Plan (including Medical Waste Management Plan) Pollution Prevention Plan 	<ul style="list-style-type: none"> Waste management plan is prepared and implemented; Periodic site inspections (daily and weekly) is performed to ensure that all wastes are separately collected, segregated, labelled and stored in designated areas; Waste register including type, amount, disposal method, transfer record and disposal site is prepared. All wastes are transferred and/or disposed to licenced /permitted disposal sites or companies. Waste disposal sites/companies are periodically (two times a year) audited by the Project Owner. Training records. Audit and inspection reports

Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
		and leakproof containers according to national or international regulations, as appropriate. <ul style="list-style-type: none"> The validation and commissioning stages of autoclaving procedures are vital part of design, construct, and operation in BSL3 facilities. A pass-through autoclave is typically used to decontaminate all lab materials and equipment exiting the facility as waste. An autoclave is a pressure chamber used to carry out high temperature sterilization. Waste containers are marked as appropriate for the level of stored waste. Autoclave bags must be resistant to puncture, tear, high temperature such as polypropylene ones are resistant to 141°C, polyethylene ones are resistant to 121°C. 					
NOISE							
O.7	Noise	WB ESS 3, IFC General EHS Guidelines, National legislation	Torlak Institute of Virology, Vaccines and Sera	Throughout operation.	<ul style="list-style-type: none"> Within the annual operation budget 	<ul style="list-style-type: none"> Environmental and Social Management; Air Quality and Noise Management Plan; 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan is prepared and implemented; Training record; Incident records; Monitoring records; Grievance records on noise and vibration; Audit and inspection reports.
COMMUNITY HEALTH AND SAFETY							
O.8	Community health, safety and security	WB ESS2, ESS4, ESS10	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€275,000	<ul style="list-style-type: none"> Community Health and Safety Plan; Emergency Preparedness and Response Plan; Communication Plan; Biosafety Manual. 	<ul style="list-style-type: none"> CHS Plan is in place; Code of Conduct is in place; Evidence that described documents are cascaded down to Project contractors and implemented; Evidence that grievance mechanism is implemented and that affected communities and other stakeholders are adequately informed on its functioning.

	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			stakeholders will be ensured; • Feedbacks and grievances received from communities and stakeholders will be monitored.					
O.9	Impact of escaping infectious agents from the BSL-3 laboratory	WB ESS2, ESS4, ESS10	• A biosafety manual specific to the laboratory will be prepared. The biosafety manual will include policies, information about supporting programmes and plans and organization specific SOPs. The manual will be available to the laboratory workers; • A biosecurity management program including biosecurity training for the workers to prevent the loss, theft, misuse, diversion or intentional release of biological agents being handled in the laboratory will be developed and implemented. • All workers will be specifically trained and supervised for handling infectious pathogens and wastes; • Laboratory workers will be trained for the operation of the laboratory equipment; • All equipment will be regularly maintained and calibrated; • HEPA filters will be established according to the requirements of WHO Laboratory Biosafety Manual. These HEPA systems will be tested at least annually. HEPA filters will be replaced when necessary; • Medical Surveillance of the laboratory personnel will be conducted; • Laboratory will be equipped with an autoclave for laboratory waste decontamination; • The BSL-3 laboratory will be separated from areas that are open to unrestricted traffic flow within the building, and access to the laboratory will be restricted;	Torlak Institute of Virology, Vaccines and Sera	Prior to commissioning of the BSL-3 lab (Biosafety manual, biosecurity program, and related policies, plans, procedures) Throughout operation	€10,000/annual	• Emergency Preparedness and Response Plan • Communication Plan • Biosafety Manual • Biosafety and Biosecurity program related policies, plans and procedures	• Emergency Preparedness and Response Plan is prepared. • Communication Plan is prepared. • Biosafety Manual and Biosafety and Biosecurity program related policies, plans and procedures are prepared. • Training records • Equipment maintenance records • Medical surveillance records
O.10	Impact of improper use of equipment in the BSL-3 laboratory	WB ESS2, ESS4	• Laboratory workers will be trained for the operation of the laboratory equipment; • All equipment will be regularly maintained and calibrated; • Manufacturer's instructions will be obeyed during operation of the equipment.	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€10,000/annual	• Emergency Preparedness and Response Plan • Communication Plan • Biosafety Manual • Biosafety and Biosecurity program related policies, plans and procedures • Training Plans • Equipment Manuals • BSL-3 specific SOPs	• Training records • Equipment maintenance records • Equipment manuals are in place
O.11	Impact of handling of infectious materials and specimens in the BSL-3 laboratory	WB ESS2, ESS4	• All workers will be specifically trained and supervised for handling infectious pathogens and wastes; • Robust and leak proof containers for specimen will be used; • Specific SOPs will be used during handling infectious materials; • All procedures that can cause infection from aerosols or splashes will be performed within a biological safety cabinet (BSC); • All laboratory operations will be conducted while wearing appropriate PPE;	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€10,000/annual	• Emergency Preparedness and Response Plan • Communication Plan • Biosafety Manual • Biosafety and Biosecurity program related policies, plans and procedures • Training Plans • Equipment Manuals • BSL-3 specific SOPs	• Emergency Preparedness and Response Plan is prepared • Communication Plan is prepared • Biosafety Manual is prepared • Biosafety and Biosecurity program related policies, plans and procedures are prepared • Training Records • Equipment Manuals • BSL-3 specific SOPs are in place.
O.12	Emergency Preparedness and	WB ESS2, ESS4,	• An Emergency Preparedness and Response Plan will be developed and implemented. Emergency	Torlak Institute of Virology,	Throughout	€7,500	• Emergency Preparedness	• Emergency Preparedness and Response

	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
	Response	ESS10	Preparedness and Response Plan will include among others emergency response procedures, first aid and emergency medical treatment, emergency resources, roles and responsibilities, action and equipment list, communication and community notification systems, training requirements;	Vaccines and Sera	operation		and Response Plan • Communication Plan • Biosafety Manual • Biosafety and Biosecurity program related policies, plans and procedures • Training Plans	Plan is prepared • Communication Plan is prepared • Training records
O.13	Transport of hazardous materials	WB ESS2, ESS4, ESS10	<ul style="list-style-type: none"> • The transfer of hazardous materials such as infectious samples will be conducted a way that minimizes the potential for drop, spillage, collision or similar events and in strict compliance with applicable national regulations and internationally accepted standards for packaging, labelling, and transport of hazardous materials and wastes including UN Model Regulations for the Transport of Dangerous Goods, • SOPs will be developed for and implemented during transfer of infectious materials, • Personnel will be provided with training on infectious materials handling, storage and transport, • When infectious samples are transferred sealed containers, such as screw-capped tubes will be used, • Appropriate and approved packaging designed for the specific type of infectious material will be used such as triple package, • All containers will be labelled with biohazard symbols and necessary information regarding the contents, handling instructions, and emergency contact details will be provided. • Access to the transportation area will be restricted to authorized personnel only. Implement Security measures to prevent unauthorized access will be implemented. • Dedicated vehicles for transporting infectious materials to minimize the risk of cross-contamination with other items or passengers will be used. Regular maintenance of vehicles will be provided to prevent breakdowns and minimize the risk of accidental exposure due to vehicle issues. • A clear emergency response plan regarding the case of spills, accidents, or any other incidents during transport will be developed and communicated. The plan will include procedures for containment, clean-up, and notification of relevant authorities. • Effective communication channels between the sending and receiving laboratories, as well as transportation personnel, to coordinate the transportation process and handle any unexpected situations will be established. • Personal protective equipment as well as emergency response equipment such as cleaning tools, disinfectants will be provided for transporting infectious materials. • Accurate documentation of all transported materials, including sender and receiver information, date, time, and details of the transported materials will be maintained. 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€4,500	<ul style="list-style-type: none"> • Emergency Preparedness and Response Plan • Communication Plan • Biosafety Manual • Biosafety and Biosecurity program related policies, plans and procedures • Training Records • Equipment Manuals • BSL-3 specific SOPs • Emergency Preparedness and Response Plan; 	<ul style="list-style-type: none"> • Emergency Preparedness and Response Plan is prepared • Communication Pla • Training Records • BSL-3 specific SOPs are in place • PPEs and as emergency response equipment are in place • Documentation for transport of hazardous materials • Maintenance records of vehicles for the transport of hazardous materials

	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
O.14	Public unrest and misperception due to insufficient communication or limited availability of information about the BSL-3 laboratory	WB ESS4, ESS10	<ul style="list-style-type: none"> Implementation of the SEP; Maintaining effective communication throughout the life of the project; Implementation of the grievance mechanism.	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€1,000	Communication Plan; Stakeholder Engagement Plan.	Grievance record
O.15	Air quality impacts and noise impacts on the nearby community	WB ESS4	<ul style="list-style-type: none"> Air Quality and Noise Management Plan will be prepared and implemented during the operation phase of the Project. The Project Owner will implement Air Quality and Noise Management Plan, with commitments to implement the following key measures to protect the community from adverse effects during operation: noise, other emissions risks with material and hazardous substances and accidents. 	Project Owner	Throughout operation	<ul style="list-style-type: none"> Within the project budget 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan; Community Health, Safety and Security Plan; Emergency Preparedness and Response Plan. 	<ul style="list-style-type: none"> Air Quality and Noise Management Plan is in place; Evidence that described documents are cascaded down to Project (sub)contractors and implemented; Evidence that grievance mechanism is implemented and that affected communities and other stakeholders are adequately informed on its functioning.
LABOUR AND WORKING CONDITIONS								
O.16	HR Policy	WB ESS2	<ul style="list-style-type: none"> Develop and implement HR Policy in line with the WB ESS 2; Implement Code of Conduct for workers; Ensure the HR Policy is cascaded down to contractors and implemented throughout the Project. 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> HR Policy; Labour Management Procedure 	<ul style="list-style-type: none"> HR Policy is in place; Code of Conduct for workers is in place; Evidence that described documents are cascaded down to Project (sub)contractors and implemented.
O.17	Labour and working conditions	WB ESS2	<ul style="list-style-type: none"> Update (as relevant) and implement: <ul style="list-style-type: none"> Staff Selection and Employment Procedure; Worker Grievance Mechanism. 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Staff Selection and Employment Procedure. 	<ul style="list-style-type: none"> Evidence of implementation of the Staff Selection and Employment Procedure; Evidence of implementation of the grievance mechanism.
O.18	Worker Grievance Mechanism	WB ESS10	<ul style="list-style-type: none"> Worker Grievance Mechanism will be developed and will: <ul style="list-style-type: none"> be open to all the staff and their contractors; be publicly advertised by the Project in the workforce; be easily accessible by workers; be free of retribution; allow anonymous complaints to be raised and addressed. Employees will be informed about this mechanism at the time of hiring and during regular training.	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	<ul style="list-style-type: none"> Included in ESMS cost 	<ul style="list-style-type: none"> Worker Grievance Mechanism. 	<ul style="list-style-type: none"> Evidence for adopted relevant procedures regarding Worker Grievance Mechanism; Worker Grievance Mechanism in Place; Training records on Worker Grievance Mechanism; Grievance Boxes and forms are in place; Register including Worker Grievance Records and corresponding responses as well as resolutions.
O.19	Occupational health and safety	WB ESS2, National Legislation	<ul style="list-style-type: none"> The BSL-3 laboratory will be designed according to WHO Laboratory Biosafety Manual and WBG EHS Guidelines ; A biosafety manual specific to the laboratory will be prepared. The biosafety manual will include policies, information about supporting programmes and plans and organization specific SOPs. The manual will be available to the laboratory workers; All laboratory operations will be conducted while wearing appropriate PPE; All procedures that can cause infection from aerosols or splashes will be performed within a biological safety cabinet (BSC); All workers will be specifically trained and supervised 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€15,000	<ul style="list-style-type: none"> Labour Management Procedure; Emergency Preparedness and Response plan. Biosafety Manual 	<ul style="list-style-type: none"> Training records; Incident and accident records; Daily toolbox talks' records; Internal and external audit reports; Evidence of providing proper and sufficient PPE for the workers; Work permit procedure is in place. Records on work permits.

Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
		<p>for handling infectious pathogens;</p> <ul style="list-style-type: none"> • HEPA filters will be established according to the requirements of WHO Laboratory Biosafety Manual. These HEPA systems will be tested at least annually. HEPA filters will be replaced when necessary.; • The BSL-3 laboratory will be separated from areas that are open to unrestricted traffic flow within the building, and access to the laboratory will be restricted. • All laboratory equipment will be regularly maintained and calibrated; • Medical Surveillance of the laboratory personnel will be conducted; • The BSL-3 laboratory room areas will be decontaminated; • A biosecurity management program including biosecurity training for the workers to prevent the loss, theft, misuse, diversion or intentional release of biological agents being handled in the laboratory will be developed and implemented. • In order to minimize fire risks, laboratory safety protocols and procedures will be followed, all chemicals will be properly labeled and stored, and a clean and clutter-free workspace will be maintained. Fire suppression systems and equipment will be installed and maintained, electrical systems and equipment will be regularly inspected and maintained, and regular fire drills to ensure that all laboratory occupants know how to respond in the event of a fire will be conducted; • An Emergency Preparedness and Response Plan will be developed and Implemented. Emergency Preparedness and Response Plan will include among others emergency response procedures, first aid and emergency medical treatment, emergency resources, roles and responsibilities, action and equipment list, communication and community notification systems, training requirements; • Laboratory workers will be trained regarding chemical hazardous and handling. Only limited amounts of chemicals necessary for daily use will be stored in the laboratory. Implementation of engineering and administrative control measures to avoid the release of hazardous substances into the work environment will be provided. Appropriately equipped first-aid stations will be easily accessible throughout the place of work, with Materials Safety Data Sheets; • To prevent ergonomic hazard tools will be selected and work stations will be designed which reduce force requirements and holding times, and which promote improved postures, implementing administrative controls into work processes, such as job rotations and rest or stretch breaks. <p>Other mitigations regarding OHS are presented in Chapter 7.10.5 under the following headings:</p> <ul style="list-style-type: none"> • Chemical Hazard Impacts and Mitigation Measures; • Ergonomic Hazard Impacts and Mitigation Measures; 					

	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Budget	Related Plans and Procedures	Monitoring and evaluation criteria
			<ul style="list-style-type: none"> Improper Use of Equipment Impacts and Mitigation Measures. 					
STAKEHOLDER ENGAGEMENT								
O.20	Information Disclosure/ Stakeholder Engagement/ Community Grievances	WB ESS10	<ul style="list-style-type: none"> Implement Stakeholder Engagement Plan (SEP) and Grievance Mechanism; SEP to be updated annually and if there are significant changes in the Project; Publicise SEP and Grievance Mechanism, including information on contact details of responsible staff to handle grievances. Social Expert shall be appointed to monitor surrounding communities' complaints related to the operation activities and maintain relationships with affected communities. 	Torlak Institute of Virology, Vaccines and Sera	Throughout operation	€1,000/annual	<ul style="list-style-type: none"> Communication Plan; Stakeholder Engagement Plan;. 	<ul style="list-style-type: none"> Evidence showing that stakeholder engagement activities (i.e. meeting notes with stakeholders, announcements regarding traffic, construction schedule, employment opportunities etc.) are performed according to the SEP; Evidence that SEP is regularly reviewed and updated; Evidence showing that affected communities and other stakeholders are effectively informed on the grievance mechanism; Grievance database / Register in place (including records of grievances, corresponding responses and resolution measures).

APPENDIX C-II

Environmental and Social Monitoring Plan

The monitoring, review and audit program detailed in Environmental and Social Monitoring Plan will be implemented during construction and operation phases to monitor the implementation of the environmental and social commitments of the ESMP requirements. Monitoring for the implementation of mitigation measures and commitments provided in the ESMP will be carried out continuously by the contractor and Project Owner in line with Monitoring Plan starting from the Construction Project. Project Owner will audit the Project every month during the construction period and once a year during the operation period. The Project Owner will be responsible for ensuring that the Contractor and its subcontractors comply with applicable national/international regulations and lenders' requirements.

Key performance indicators (KPIs) of this procedure will be monitored, verified and evaluated within the scope of the project monitoring phase. The KPIs are presented in Table 2 below.

Table 2. Key Performance Indicators

KPI	Target
Air Quality	
Air Quality incidents	Minimization and continued improvement in the number of the reported air quality related incidents.
Non-Compliance with Project standards	Zero Non Compliance Reports (NCRs) per year
Community complaints	Minimization and continued improvement in the number of air quality related community complaints.
Noise	
Noise and Vibration incidents	Minimize and continued improvement in number of reported noise and vibration related incidents.
Non-Compliance with Project standards	Zero Non Compliance Reports (NCRs) per year
Number of noise-related community grievances	Zero grievances per year
Water and Wastewater	
Spill incident	Minimization and continued improvement in the number of the reported water quality related incidents.
Non-Compliance with Project standards	Zero NCRs per year
Wastewater collection system	Zero grievances per year
Flood incidents	No infrastructure damage and damage to loads/humans
Groundwater levels of the community/private wells	No significant adverse impact
Water quality analyses	Meeting set national and international water quality standards for surface and groundwater impacted and/or near the Project
Wastewater analyses	Meeting set national and international wastewater discharge quality standards
Waste	
Waste Generation	Total waste generated Ratio of hazardous waste generated to total waste (by contamination + by generation)
Waste Disposal	Ratio of recovered/reused/recycled waste to total waste generated

KPI	Target
Soil	
Spill incident	Minimization and continued improvement in the number of the reported soil quality related incidents.
Non-Compliance with Project standards	Zero NCRs per year
Number of soil-related community grievances	Zero grievances per year
Traffic	
Number of non-compliances against the mitigation controls identified in Traffic Management Plan	Decreasing number/ continuous improvement in number of reported non-compliances
Number of drivers found to be exceeding speed limits or driving unsafely	Zero exceedance per year
Number of road traffic accidents involving: Accidental injuries and deaths, Spillages (such as cargo or fuel), Wildlife-vehicle collisions.	Zero accidents per year
Number of traffic-related grievances	Zero grievances per year
Health, Safety and Environment	
% of scheduled HSE Inspection	>90
% of attendance at HSE meetings	>90
% of closing of NCRs	100
Reporting safe observations	100%
Reporting unsafe observations	100%
Reporting near misses	100%
% of Toolbox attending	>90
% of Risk Assessment compliance	>90
% of Legal Requirements compliance	>90
Results of scheduled audits	>85
HSE training carried out to training matrix > 90% of all training to matrix	>90
% of attendance at scheduled trainings	>90
Engagement in HSE program by individual managers and supervisors	>90
Engagement in HSE program by contractor's	>90
Labor and Working Conditions	
Number of worker grievances closed out within the target timeframe	Zero worker grievances closed out of time
Community Health and Safety	
Number of communicable and non-communicable diseases and injuries.	Negative Trend
Number of community health safety & security complaints from local communities as recorded in the grievance management system.	Decreasing number/ continuous improvement in number of complaints
Number of reported community health & safety incidents	Zero incidents per year
Number of reported noise incidents	Zero incidents per year

Table 3. Construction Phase Environmental and Social Monitoring Plan

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Disclosure	Settlements near the project area	Monthly	Grievances	<ul style="list-style-type: none"> ▪ On-site inspections ▪ Minutes of meetings ▪ Grievance redress mechanism records 	Zero grievances closed out within the target timeframe	-	<ul style="list-style-type: none"> ▪ Grievance Records ▪ Number of grievances ▪ Percentage of closed grievances within the target timeframe 	Brings no additional cost	PCU Contractor
Labour Conditions	Project area	Monthly	Grievances	<ul style="list-style-type: none"> ▪ Internal and external audits ▪ Grievance records ▪ Accident records ▪ Training records ▪ Sample contracts ▪ Human Resource Policy ▪ Number of the local employees ▪ Legal work permit 	Zero grievances closed out within the target timeframe	<ul style="list-style-type: none"> ▪ Law on Labour ▪ ILO International Regulations 	<ul style="list-style-type: none"> ▪ Number of worker grievances ▪ Percentage of closed grievances within the target timeframe 	No additional costs	PCU Contractors
Occupational Health and Safety	Project area	Daily	Safe conditions on the construction site Risk analysis and procedures Disease Incidents Grievances Toolbox talks	<ul style="list-style-type: none"> ▪ On-site inspections ▪ Interviews with employees ▪ Complaint records ▪ Training and toolbox records ▪ Contract examples 	The targets are expressed numerically in Table .	<ul style="list-style-type: none"> ▪ Occupational Health and Safety Law ▪ Regulation on Health and Safety Requirements for the Use of Work Equipment 	<ul style="list-style-type: none"> ▪ % of scheduled HSE Inspection ▪ % of attendance at HSE meetings ▪ % of closing of NCRs ▪ Reporting safe observations ▪ Reporting 	No additional costs	PCU Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
			and trainings HSE Inspection Legal Requirements EPRP	<ul style="list-style-type: none"> ▪ Internal and external audits ▪ Accident and near miss records ▪ Drill records 			<ul style="list-style-type: none"> unsafe observations ▪ Reporting near misses ▪ % of Toolbox attending ▪ % of Risk Assessment compliance ▪ % of Legal Requirements compliance ▪ Results of scheduled audits ▪ HSE training carried out to training matrix ▪ > 90% of all training to matrix ▪ % of attendance at scheduled trainings ▪ Engagement in HSE program by individual managers and supervisors ▪ Engagement in HSE program by contractor's 		

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Community Health & Safety	Project area Residential areas around project area	Daily	Safety conditions at the site Fencing of construction site Warning signs and flashlights Grievances Incidents Accidents	<ul style="list-style-type: none"> ▪ Records of comments/ suggestions/ grievances ▪ Site Audits ▪ Training records 	No significant increase in communicable and non-communicable disease and injury rates per 1,000 residents per annum. Decreasing number/ continuous improvement in number of complaints Zero incidents per year	<ul style="list-style-type: none"> ▪ Public Health Law ▪ National legislation ▪ Health and Safety Signs Regulation 	<ul style="list-style-type: none"> ▪ Number of communicable and non-communicable diseases and injuries. ▪ Number of community health safety & security complaints from local communities as recorded in the grievance management system. ▪ Number of reported community health & safety incidents ▪ Number of reported noise incidents 	No additional costs	PCU Contractors
Grievance Mechanism	Project area Settlements near the project area	Monthly	Grievance Records	<ul style="list-style-type: none"> ▪ View/suggestion/ grievance records ▪ On-site inspection 	Zero grievances not closed out within the target timeframe	WB ESS 10	<ul style="list-style-type: none"> ▪ Grievance Records ▪ Number of grievances ▪ Percentage of closed grievances within the target timeframe 	No additional costs	PCU Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Protection of soil and groundwater from contamination	Project area	Weekly	Spill or incident reports	<ul style="list-style-type: none"> Hazardous and non-hazardous waste disposal registers Incident records; Audit and inspection reports. 	Zero spill or incident reports within the target timeframe	WB ESS 1; WB ESS 3; WB ESS 4; Best practice, National legislation	<ul style="list-style-type: none"> Spill or incident reports 	No additional costs	Contractors
Air Quality	Project area Settlements near the project area	During Construction In case of grievance Monthly	Grievance Records	<ul style="list-style-type: none"> On-site inspections PM2.5 and PM10 Measurements to be performed in case of grievance 	<ul style="list-style-type: none"> Minimization and continued improvement in the number of the reported air quality related incidents. Zero complaints per year Minimization and continued improvement in the number of air quality related community complaints. 	<ul style="list-style-type: none"> Law on Air Protection ("Official Gazette of RS" No. 36/2009 and 10/2013) and Regulation on the Conditions for Monitoring and Air Quality Requirements (Official Gazette of RS, No. 11/10 and 75/10, Amend 63/13) WB ESS 1 WB ESS 3 	<ul style="list-style-type: none"> Air Quality incidents Records of Non-Compliance with air quality standards Community complaints 	No additional costs	Contractors
Noise	Project area Settlements near the project area	During Construction In case of grievance Monthly	Grievance Records	<ul style="list-style-type: none"> Monitoring conducted at the nearest sensitive receptors using noise measuring devices On-site inspections Measurements to be performed in case of grievance 	<ul style="list-style-type: none"> Minimize and continued improvement in number of reported noise and vibration related incidents. Zero NCRs per year Zero grievances per year 	<ul style="list-style-type: none"> Degree on noise indicators, limit values, methods for evaluating of noise indicators, disturbance and harmful effects of environmental noise (Official Gazette of RS, no. 75/10) WB ESS 1 WB ESS 3 	<ul style="list-style-type: none"> Noise and Vibration incidents Records of Non-Compliance with Project standards Number of noise-related community grievances 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Waste Management	Project area	During Construction Daily	<ul style="list-style-type: none"> ▪ Temporary waste storage area conditions ▪ Waste amount ▪ Recovery / reuse / recycle ratio 	<ul style="list-style-type: none"> ▪ Waste records ▪ On-site inspection 	<ul style="list-style-type: none"> ▪ Minimization of total waste generated ▪ Minimize the ratio of hazardous waste generated to total waste (by contamination + by generation) ▪ Increasing the ratio of recovered/reused/ recycled waste to total waste generated 	<ul style="list-style-type: none"> ▪ Waste Management Program in the Republic of Serbia for the period 2022-2031 (Official Gazette of RS, No. 12/22) ▪ Law on waste management (Official Gazette of RS, No. 36/09, 88/10, 14/16, 95/18 - other law) ▪ Regulation on the form of the document on the movement of waste and instructions for its completion (Official Gazette of RS, No. 114/13) ▪ Regulation on the form of daily records and annual report on waste with instructions for its completion (Official Gazette of RS, No. 7/20, 79/21) ▪ WBG General EHS Guidelines ▪ WB ESS 1 ▪ WB ESS 3 	<ul style="list-style-type: none"> ▪ Total waste generated ▪ Ratio of hazardous waste generated to total waste (by contamination + by generation) ▪ Ratio of recovered/ reused/ recycled waste to total waste generated 	No additional costs	Contractors
Non-Hazardous Waste and Domestic Waste	Project area	During Construction Daily	<ul style="list-style-type: none"> ▪ Waste amount ▪ Recovery /reuse /recycle ratio 	<ul style="list-style-type: none"> ▪ Waste records ▪ On-site inspection 	<ul style="list-style-type: none"> ▪ Minimization of total waste generated ▪ Increase in the ratio of recovered/ reused/ recycled to landfilled 	<ul style="list-style-type: none"> ▪ Regulation on the form of the document on the movement of waste and instructions for its completion (Official Gazette of RS, No. 114/13) ▪ Regulation on the form of daily records and annual report on waste with instructions for its 	<ul style="list-style-type: none"> ▪ Total waste generated ▪ Ratio of recovered/ reused/ recycled waste to total waste generated ▪ Records 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
						completion (Official Gazette of RS, No. 7/20, 79/21) <ul style="list-style-type: none"> Law on packaging and packaging waste (Official Gazette of RS, No. 36/09 and 95/18) 	regarding transportation and disposal.		
Waste Oils	Project area	During Construction Weekly	<ul style="list-style-type: none"> Waste amount Waste storage conditions Recovery /reuse/ recycle ratio 	Visual observations Waste records	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	<ul style="list-style-type: none"> Regulation on the conditions, method and procedure of waste oil management (Official Gazette of RS. No. 71/10) 	<ul style="list-style-type: none"> Total waste generated Ratio of recycled waste to total waste generated. Records regarding transportation and disposal. 	No additional costs	Contractors
Electronic Waste, Waste Batteries and Accumulators	Project area	During Construction Monthly	<ul style="list-style-type: none"> Waste amount Recovery /reuse/ recycle ratio 	Waste records	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	<ul style="list-style-type: none"> Regulation on the list of electrical and electronic products, measures prohibiting and limiting the use of electrical and electronic equipment containing hazardous substances, methods and procedures for waste management of electrical and electronic products (Official Gazette of RS, No. 99/10) Regulation on the method and procedure for managing waste fluorescent tubes containing mercury (Official Gazette of RS, No. 97/10) 	<ul style="list-style-type: none"> Total waste generated Ratio of recycled waste to total waste generated. Records regarding transportation and disposal. 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Excavation Soil, Construction and Debris Demolition Wastes	Project area	During Construction Daily	Waste amount and storage conditions Transfer records	On-site inspection	<ul style="list-style-type: none"> ▪ Minimization of total waste generated ▪ Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	<ul style="list-style-type: none"> ▪ Law on Planning and Construction (Official Gazette of the Republic of Serbia, No. 72/09, 81/09 (amendment), 64/10 (US), 24/11, 121/12, 42/13 (US), 50/13 (US), 98/13 (US), 132/14, 145/14, 83/18, 31/19 ,37/19 (other law), 9/20 and 52/21) ▪ Rulebook on the management of waste containing asbestos ("Official Gazette of RS", No. 75/10) 	<ul style="list-style-type: none"> ▪ Total waste generated ▪ Records regarding transportation and disposal. 	No additional costs	Contractors
Wastewater and Water Management	Project area	During Construction At the beginning of the project.	Sewer construction connection permit.	Official Letter regarding permit.	<ul style="list-style-type: none"> ▪ Permit in place. 	<ul style="list-style-type: none"> ▪ Regulation on the method and conditions for measuring the quantity and testing the quality of wastewater and the content of the report on the measurements (Official Gazette of RS, No. 33/16) ▪ Regulation on the content and form of requests for the issuance of water acts, the content of opinions in the procedure for issuing water conditions and the content of reports in the procedure for issuing a water permit (Official Gazette of RS, No. 72/17, 44/18 – other law, 12/22) ▪ Regulation on determining the cases 	<ul style="list-style-type: none"> ▪ Permit 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
						<p>in which it is necessary to obtain a water permit (Official Gazette of RS, No. 30/17)</p> <ul style="list-style-type: none"> ▪ Regulation on the hygienic suitability of drinking water (Official Gazette of RS, No. 42/98, 44/99, 28/19) ▪ WB ESS 1 ▪ WB ESS 3 ▪ WB ESS 4 			
Hazardous Waste Management	Project area	During Construction Daily	Waste amount and storage conditions	<ul style="list-style-type: none"> ▪ Waste records ▪ On-site inspection 	Increase in the ratio of hazardous waste generated to total hazardous waste (by contamination + by generation)	<ul style="list-style-type: none"> ▪ Regulation on storage, packaging and labelling of hazardous waste (Official Gazette of RS, No. 92/10, 77/21) ▪ Regulation on the form of the document on the movement of hazardous waste, the form of the prior notification, the method of its delivery and the instructions for filling them in (Official Gazette of RS, No. 17/17) 	<ul style="list-style-type: none"> ▪ Total waste generated ▪ Records regarding transportation and disposal. 	No additional costs	Contractors
Biodiversity	Project area	During Construction Daily	<ul style="list-style-type: none"> ▪ Habitat condition ▪ Fauna individuals, nests, eggs, or nestlings ▪ Introduction of alien invasive species 	<ul style="list-style-type: none"> ▪ On-site inspection 	<ul style="list-style-type: none"> ▪ Zero damage to surrounding habitats, ▪ Zero hunting, foraging, redundant logging ▪ Zero introduced alien invasive species 	<ul style="list-style-type: none"> ▪ WB ESS 6 ▪ Best practice, ▪ National legislation 	<ul style="list-style-type: none"> ▪ Total damaged surrounding habitats ▪ Total secured nests ▪ Total transported fauna individuals ▪ Total 	No additional costs	Contractors

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
							Accidental fauna injuries and deaths <ul style="list-style-type: none"> Total introduced and eradicated alien invasive species 		
Cultural Heritage	Project area Settlements near the project area	Daily throughout the construction	Existence of a Chance Find	<ul style="list-style-type: none"> On-site inspection Existence of a Chance Find Procedure 	-	<ul style="list-style-type: none"> National legislation WB ESS 8 	<ul style="list-style-type: none"> Number of chance find records and reports 	No additional costs	Contractors

Table 4. Operation Phase Environmental and Social Monitoring Plan

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Disclosure	Settlements near the project area	During the lifetime of the project Daily	Grievances	<ul style="list-style-type: none"> On-site inspections Minutes of meetings Grievance redress mechanism records 	Zero grievances not closed out within the target timeframe	<ul style="list-style-type: none"> WB ESS10 	<ul style="list-style-type: none"> Grievance Records Number of grievances Percentage of closed grievances within the target timeframe 	Brings no additional cost	Torlak Institute of Virology, Vaccines and Sera
Labor Conditions	Project route and maintenance areas	Monthly	Grievances	<ul style="list-style-type: none"> Internal and external audits Grievance records 	Zero grievances not closed out within the target timeframe	<ul style="list-style-type: none"> Law on Labour ILO International Regulations 	<ul style="list-style-type: none"> Number of worker grievances Percentage of closed 	No additional costs	Torlak Institute of Virology, Vaccines and Sera

Appendix C - ESMP

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
				<ul style="list-style-type: none"> ▪ Accident records ▪ Training records ▪ Sample contracts ▪ Human Resource Policy ▪ Number of the local employees ▪ Legal work permit 			grievances within the target timeframe		
Occupational Health and Safety	Project area Settlements near the project area	Monthly	Disease Incidents Grievances Trainings HSE Inspection Legal Requirements Compliance with Emergency Plans	<ul style="list-style-type: none"> ▪ On-site inspections ▪ Interviews with employees ▪ Complaint records ▪ Training records ▪ Contract examples ▪ Internal and external audits ▪ Emergency Plans ▪ Accident records 	The targets are expressed numerically in Table .	<ul style="list-style-type: none"> ▪ Occupational Health and Safety Law ▪ Regulation on Health and Safety Requirements for the Use of Work Equipment 	<ul style="list-style-type: none"> ▪ % of scheduled HSE Inspection ▪ % of attendance at HSE meetings ▪ % of closing of NCRs ▪ Reporting safe observations ▪ Reporting unsafe observations ▪ Reporting near misses ▪ % of Toolbox attending ▪ % of Risk Assessment compliance ▪ % of Legal Requirements compliance ▪ Results of 	No additional costs	Torlak Institute of Virology, Vaccines and Sera

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
							scheduled audits <ul style="list-style-type: none"> ▪ HSE training carried out to training matrix ▪ > 90% of all training to matrix ▪ % of attendance at scheduled trainings ▪ Engagement in HSE program by individual managers and supervisors ▪ Engagement in HSE program by contractor's 		

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Community Health & Safety	Project area Residential areas around project area	Monthly	Grievances Incidents Accidents	<ul style="list-style-type: none"> Records of comments/ suggestions/ grievances Site Audits Training records 	No significant increase in communicable and non-communicable disease and injury rates per 1,000 residents per annum. Decreasing number/ continuous improvement in number of complaints Zero incidents per year	<ul style="list-style-type: none"> Public Health Law Health and Safety Signs Regulation 	<ul style="list-style-type: none"> Number of communicable and non-communicable diseases and injuries. Number of community health safety & security complaints from local communities as recorded in the grievance management system. Number of reported community health & safety incidents 	No additional costs	Torlak Institute of Virology, Vaccines and Sera
Grievance Mechanism	Project area Settlements near the project area	Monthly	Grievance Records	<ul style="list-style-type: none"> View/suggestion/grievance records On-site inspection 	Zero grievances closed out within the target timeframe	WB ESS 10	<ul style="list-style-type: none"> Grievance Records Number of grievances Percentage of closed grievances within the target timeframe 	No additional costs	Torlak Institute of Virology, Vaccines and Sera
Protection of soil and groundwater from contamination	Project area	Weekly	Spill or incident reports	<ul style="list-style-type: none"> Hazardous and non-hazardous waste disposal registers Incident 	Zero spill or incident reports within the target timeframe	WB ESS 1; WB ESS 3; WB ESS 4; Best practice, National legislation	<ul style="list-style-type: none"> Spill or incident reports 	No additional costs	Torlak Institute of Virology, Vaccines and Sera

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
				records; <ul style="list-style-type: none"> Audit and inspection reports. 					
Waste Management	Project area	During the lifetime of the project. In case of grievance Daily	<ul style="list-style-type: none"> Waste amount Recovery / reuse / recycle ratio 	<ul style="list-style-type: none"> Waste records On-site inspection 	<ul style="list-style-type: none"> Minimization of total waste generated Minimize the ratio of hazardous waste generated to total waste (by contamination + by generation) Increasing the ratio of recovered/reused / recycled waste to total waste generated 	<ul style="list-style-type: none"> Waste Management Program in the Republic of Serbia for the period 2022-2031 (Official Gazette of RS, No. 12/22) Law on waste management (Official Gazette of RS, No. 36/09, 88/10, 14/16, 95/18 - other law) Regulation on medical waste management (Official Gazette of RS, No. 48/19) Law on packaging and packaging waste (Official Gazette of RS, No. 36/09 and 95/18) Regulation on the form of the document on the movement of waste and instructions for its completion (Official Gazette of RS, No. 114/13) Regulation on the form of daily records and annual report on waste with instructions for its completion (Official Gazette of RS, No. 7/20, 79/21) WBG General EHS Guidelines 	<ul style="list-style-type: none"> Total waste generated Ratio of hazardous waste generated to total waste (by contamination + by generation) Ratio of recovered/reused/ recycled waste to total waste generated Records regarding transportation and disposal 	No additional costs	Torlak Institute of Virology, Vaccines and Sera

Appendix C - ESMP

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
						<ul style="list-style-type: none"> WB ESS 1 WB ESS 3 			
Non-Hazardous Waste and Domestic Waste	Project area	During the lifetime of the project. In case of grievance Daily	<ul style="list-style-type: none"> Waste amount Recovery /reuse /recycle ratio 	<ul style="list-style-type: none"> Waste records On-site inspection 	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled to landfilled 	<ul style="list-style-type: none"> Regulation on the form of the document on the movement of waste and instructions for its completion (Official Gazette of RS, No. 114/13) Regulation on the form of daily records and annual report on waste with instructions for its completion (Official Gazette of RS, No. 7/20, 79/21) Law on packaging and packaging waste (Official Gazette of RS, No. 36/09 and 95/18) 	<ul style="list-style-type: none"> Total waste generated Ratio of recovered/ reused/ recycled waste to total waste generated Records regarding transportation and disposal. 	No additional costs	Torlak Institute of Virology, Vaccines and Sera
Electronic Waste, Waste Batteries and Accumulators	Project area	During the lifetime of the project	<ul style="list-style-type: none"> Waste amount Recovery /reuse/ recycle ratio 	Waste records	<ul style="list-style-type: none"> Minimization of total waste generated Increase in the ratio of recovered/ reused/ recycled waste to total waste generated 	<ul style="list-style-type: none"> Regulation on the list of electrical and electronic products, measures prohibiting and limiting the use of electrical and electronic equipment containing hazardous substances, methods and procedures for waste management of electrical and electronic products (Official Gazette of RS, No. 99/10) Regulation on the method and procedure for managing waste fluorescent tubes containing mercury 	<ul style="list-style-type: none"> Total waste generated Ratio of recycled waste to total waste generated. Records regarding transportation and disposal. 	No additional costs	Torlak Institute of Virology, Vaccines and Sera

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
						(Official Gazette of RS, No. 97/10)			
Medical Waste and Hazardous Waste Management	Project area	During the lifetime of the project	Waste amount and storage conditions	<ul style="list-style-type: none"> ▪ Waste records ▪ On-site inspection 	<ul style="list-style-type: none"> ▪ Increase in the ratio of hazardous waste generated to total hazardous waste (by contamination + by generation) 	<ul style="list-style-type: none"> ▪ Regulation on medical waste management (Official Gazette of RS, No. 48/19) ▪ Regulation on storage, packaging and labelling of hazardous waste (Official Gazette of RS, No. 92/10, 77/21) ▪ Regulation on the form of the document on the movement of hazardous waste, the form of the prior notification, the method of its delivery and the instructions for filling them in (Official Gazette of RS, No. 17/17) ▪ EHS Guideline for Health Care Facilities 	<ul style="list-style-type: none"> ▪ Total waste generated ▪ Records regarding transportation and disposal. 	No additional costs	Torlak Institute of Virology, Vaccines and Sera
Wastewater and Water Management	Project area	At the beginning of the project operation. During the lifetime of the project Monthly	Sewer operation connection permit. National and international wastewater discharge quality standards	<ul style="list-style-type: none"> ▪ Official Letter regarding permit. ▪ Wastewater Analyses reports 	<ul style="list-style-type: none"> ▪ Permit in place. ▪ Analysis results compliance with national and international standards 	<ul style="list-style-type: none"> ▪ Regulation on the method and conditions for measuring the quantity and testing the quality of wastewater and the content of the report on the measurements (Official Gazette of RS, No. 33/16) ▪ Regulation on the content and form of requests for the issuance of water acts, the content of opinions 	<ul style="list-style-type: none"> ▪ Permit ▪ Wastewater Analyses reports and records 	No additional costs	Torlak Institute of Virology, Vaccines and Sera

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
						<p>in the procedure for issuing water conditions and the content of reports in the procedure for issuing a water permit (Official Gazette of RS, No. 72/17, 44/18 – other law, 12/22)</p> <ul style="list-style-type: none"> ▪ Regulation on determining the cases in which it is necessary to obtain a water permit (Official Gazette of RS, No. 30/17) ▪ Regulation on the hygienic suitability of drinking water (Official Gazette of RS, No. 42/98, 44/99, 28/19) ▪ EHS Guideline for Health Care Facilities ▪ WB ESS 1 ▪ WB ESS 3 ▪ WB ESS 4 			

APPENDIX - Plans and Procedures Described in the ESMP

Plans and procedures, which are determined for the Project in the ESIA Chapter 10 Environmental and Social Management, are described below. More information on management of impacts of associated facilities is provided in Section 10.3.6 of the ESIA Report.

For All Phases of the Project:

- HR Policy;
 - Code of Conduct;
- EHSS Policy;
- Stakeholder Engagement Plan
- Chemical and Hazardous Materials Management Plan
- Air Quality and Noise Management Plan
- Waste and Wastewater Management Plan (including Medical Waste Management Plan)
- Pollution Prevention Plan
- Construction Site Traffic Management Plan
- Human Resources Management Plan
- Community Health and Safety Plan
- Occupational Health and Safety Plan
- Labour Management Procedure
- Emergency Preparedness and Response Plan
- Security Management Plan
- Communication Plan
- Chance Find Procedure