

**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN OF PROPOSED SACEP HEAD QUARTERS BUILDING.**

Stages of Construction	Activity	Environmental and Social Issues / Potential Environmental and Social Impact	Proposed Mitigation Measures or Enhancement Measures	Mitigation Cost (LKR)	Implementation	Regular Monitoring and Supervision	Frequent Monitoring and Averell supervision	Aspects / Parameters to be monitored	Means of monitoring frequency
Pre construction	Arranging labor for construction works	<p>Workers staying in the construction site may create social issues due to the way they communicate, dress, behavior, consuming alcohol, etc.</p> <p>Potential for spreading communicable diseases</p> <p>Grievances could arise during construction. Public may complain about behavior and attitude of workers.</p>	<p>Health conditions will be closely monitored and prevention mechanisms will be in place to avoid spread of communicable disease. Further, there will be an induction session to the laborer's and staff working for the construction of occupational health and safety, policies, codes of conduct and protocols. Organize daily meetings and provide feedback on compliance and awareness programs on communicable disease and implement prevention mechanisms. Required number of proper sanitary facilities will be installed. Appropriate complaint or grievance redress mechanisms will be installed and it will be publicly available for everyone to report gender-based violence, sexual exploitation and abuse and sexual Harassment (SEA/SH). Campaigns, billboards or notice boards with contact information will be made available. Occupational health and safety officers, security personnel, PPE and first aid kits will reduce adverse impact. Barriers, signages, night light, control systems like safe passage and access control will be installed. Adequate and well-ventilated camps / premises, clean eating areas, and separate sleeping / resting areas for male and female workers will be set up</p>	Part of the construction cost	Supplier / Contractor under UNOPS supervision	Engineer and Environmental Specialist of UNOPS	Environment and Social Development Specialist SACEP	Health and safety plan, awareness program material, number of PPE available and used, Grievance Log, suggestions Box, Assignment of security personal and Health and safety officer.	Attendance of workers, Self-health history declaration and medical report if required., Prior to start assign task and every 3 months.

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	Site clearing and preparation for construction.	Excess soil residual spoils including debris, Top Soil removal, Soil erosion and sedimentation of nearby drains	All debris, residual spoil material shall be segregated as much as possible and disposed only at locations approved by the Supervising Engineer. The debris and spoil shall be disposed in such a manner that; (i) waterways and drainage paths are not blocked, (ii) the disposed material should not be washed away by runoff and (iii) should not be a nuisance to the public. Material will be stored in a place where it may reduce soil erosion. Appropriate dyke will be constructed around stock piles. There is no important vegetation in the construction site and suitable vegetation could be replaced during the landscaping of the construction site. Minimum 6 inches slope will be maintained to avoid soil erosion.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS	Environment and Social Development Specialist SACEP	Areas where nurseries and green zones are established; Tree Cutting Permit (if necessary)	Physical visit and records of every 3 months
	Transportation and Storing Construction materials at site	Impact associated with extraction of local construction material, Traffic congestions due to heavy vehicle movements, Vehicle access will be limited but some nuisance to the public is likely.	Construction material need to be obtained from authorized supplier, Plan material flow and store only immediate requirement and maintain secondary store. Delivery could be planned only during the off-peak hours, Traffic management plan and traffic aid, coordinating with local authority, police, general public and other stakeholder to rerouting of vehicle traffic. Make sure traffic signs and health and safety signs are in place.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS	Environment and Social Development Specialist SACE	Stored material, Procurement and logistic plan	Physical visit and records, every 3 months
Construction	Excavation for foundation and preliminary earth works	Excess soil mixed spoil generates, silt and turbid water flows to nearby drains and finally silt is deposited in drains.	Ensure soil is free from hazardous material and securely dispose excess soil. In case of excess soil, it has to be securely disposed to ensure future use and free from contamination. Turbid water should be diverted along a retention pond before discharging to the drains.	Part of the construction cost	Construction team	Engineer and Environmental Specialist of UNOPS	Environment and Social Development Specialist SACE	Soil deposition turbidity level of nearby drains, waste quantity accumulated in site.	Physical visit and records, every 3 months
	Climate Change Vulnerability of Proposed building	Flooding and Drainage issue due to fluctuation of surface runoff level and Ground water table under the extreme climate change scenario	Design of the building has been done taken to account the anticipated sea level and rainfall pattern fluctuation.	Design cost	Design team and UNOPS	Engineer and Environmental Specialist of UNOPS	Environment and Social Development Specialist SACE	Forecasted flood level and Mean Sea level	First design review.

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	Dewatering the excavated pits and trenches.	<p>Possible flooding due to discontinuity of channels. Soil property and texture may change due to removal of water. Minerals and soft layers could be washed away. There could be development of cracks in the building close by.</p> <p>Dewatering process can cause sudden decrease in saturated water level of soil due to lowering of ground water table which can cause localized Ground settlement/instability of ground and it may cause damage to the adjacent buildings.</p> <p>During pilling activity, a big quantity of Mixed slurry containing mud and bentonite can be generated.</p>	<p>Reduce contamination and divert water towards existing drainage and ensure hydraulic balance. Apply surface filter to avoid a blockage in the drain. Temporary drainage is required to divert water. It could be 50 mm diameter PVC pipe.</p> <p>Dewatering needs to be undertaken if it is extremely important. Therefore, adequate measures should be adopted to minimize releasing this turbid water slurry into the drains or nearby wetland. suitable retention pond /Silt trap or sediment basin has to be established at site to divert water before releasing to the vicinity. The type of retention structure should be clearly mentioned in ESMP.</p> <p>Portland cement (type 2) could be an option to undertake construction in stagnant water. This may reduce requirement of dewatering.</p>	Part of the construction cost	Construction team under UNPS supervision	Engineer and Environmental Specialist of UNOPS	Environment and Social Development Specialist SACE	Discharged water turbidity, sedimentation level, discharged solid waste quantity.	Physical observation weekly

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	<p>Piling activities for foundation</p>	<p>Oil and hazardous material release, Water quality degradation, Air quality degradation, Noise pollution</p> <p>Piling activities will generate linear vibration in significant levels and it may cause potential impact on nearby structures and eventually may damage houses and boundary walls of nearby settlements.</p>	<p>This will be piling foundation and the foundation may reach 30 m depth. As dewatering need to ensure continuous removal of bentonite. The dewatering may require treatment and bentonite need to be disposed separately as per the municipality guideline. As it is low acute toxic chemical, simple treatment is adequate.</p> <p>Calculate required oil or hazardous material and forecast the requirement to avoid any accidents. In the event of any accident, area will be isolated and storing in a secured place and bioremediation will be provided. It is also possible to store in a temporary container. Maintain records of any accidents, measures for cleanup and accidents handling, provide training for staff to handle emergency situation and contamination. Prohibit use of equipment and vehicles that emit dark sooty emissions; Construction schedule will be visible to general public. Use of equipment with noise reduction cover, Position noise making equipment away from houses and receptors. Noise level set by World Bank are 55 and 45 dB(A) during daytime and nighttime, respectively.</p> <p>Slurry will be controlled by installing filtrate and it could be reused for the construction purpose.</p> <p>Detailed pre crack survey/Condition survey has been carried out and proposed mitigation measures will be implemented before starting the piling works.</p> <p>The Radius/ periphery going to be surveyed should be determined taking into account the vulnerable settlements like underserved settlements located in the nearby land. The piling contractor should have an authorized waste/ bentonite disposal site which should have a valid EPL or other letter of approval issued by the Central Environment Authority. The copy of EPL should be shared with SACEP-PIU.</p> <p>Pre-crack survey has been conducted for the 80m periphery from the construction site. All susceptible buildings were inspected after first test boring. All buildings located in an 80 m</p>	<p>Part of the construction cost</p> <p>Will be accessed after the construction</p>	<p>Construction team under UNOPS supervision.</p>	<p>Engineer and Environmental Specialist of UNOPS, External vibration monitoring team,</p>	<p>Environment and Social Development Specialist SACE</p>	<p>Physical observation, Instrumental monitoring of Vibration and measuring the expansion of existing cracks</p> <p>Visual inspection, verification of record, number of trainings organized, number of employees certified to handle hazardous material</p>	<p>Regular observation.</p>
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			radius will be re-inspected at the end of piling activities and damage caused by the piling activities will be rectified.						
		Light to medium damage to identified constructions, such as the formation of cracks in walls/boundary wall	<p>Pre-crack survey was conducted for the 80 m periphery from the construction site. All susceptible buildings shall be inspected after the first test drilling.</p> <p>All buildings located in an 80 m radius should be re-inspected at the end of piling activities and damage caused by the piling activities should be rectified.</p> <p>The pre and post crack survey and rectification are included in the piling constructor's obligation. The estimated maximum damage is at the rectification value of 83,668 USD (Annex I), and the contractor's all risk insurance (CAR) has a maximum coverage of LKR 30,000,000 (Annex II), the equivalent of USD 93,396 per UN exchange rate on 15 September 2023.</p>	Identified cost will be covered by the contractor and its CAR.	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation and measuring the expansion of existing cracks	Regular Monitoring
		Physical hazards due to collapsing buildings or part of the building	<p>The test piling is scheduled after school hours and during weekends. Possible damages to the building to be rectified by the contractor, immediately</p> <p>Qualified technical firm shall be deployed in site to monitor the Vibration level with respect following parameters                      frequency of a transverse wave Vertical in Frequency (Hz) Peak in mm/s                      Longitudinal in Frequency (Hz) Peak in mm/s                      Means Peak Particle Velocity (PPV-Peak Vector Some in mm/s) and the result should be evaluated vs the ISO and SL standards during the test piling</p>	Recovery cost of possible damage will be covered by the contractor and its CAR. 300,000, already included in the UNOPS Health and Safety consideration	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation, Frequency and particle velocity	Regular Monitoring

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			<p>2nd level risk assessment shall be conducted after drilling the test pile under close monitoring of the impact level at nearby settlement.</p> <p>Qualified Safety officers should be deployed in an impact zone covering 80 m radius to regularly monitor the impact and response of structures under the ground vibration.</p> <p>Qualified technical firm shall be deployed in site to monitor the Vibration level with respect following parameters                      frequency of a transverse wave Vertical in Frequency (Hz) Peak in mm/s                      Longitudinal in Frequency (Hz) Peak in mm/s                      Means Peak Particle Velocity (PPV-Peak Vector Some in mm/s) and the result should be evaluated vs the ISO and SL standards during the test piling</p>	Identified cost will be covered by the contractor and its CAR	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation and instrumental Monitoring of frequency of a transverse wave Vertical in Frequency (Hz) Peak in mm/s Longitudinal in Frequency (Hz) Peak in mm/s Means Peak Particle Velocity (PPV-Peak Vector Some in mm/s)	Regular Monitoring
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			High risk settlement shall be re-assessed based on the vibration level observed at building during the test drilling period.	N/A	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical Observation, Instrumental monitoring records and Community consultation	Regular Monitoring
			If the 2nd level risk assessment confirms the high-risk level (includes moderate 2) on particular buildings, Temporary accommodation facilities shall be provided to the necessary PAPs until the end of the piling activity, estimated to be two months.	60,000 to be reserved as a provisional sum.	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical Observation and Community consultation	Regular Monitoring
		Nuisances' vibration and Noise due to the drilling activity	Piling activities shall be scheduled taken in to account the minimum disturbance can happened for the nearby people (special reference on The Rehabilitation Centre For the Communication Impaired) Vibration and noise level shall be minimized by using most appropriate cutting head for the boring machine.  If the nuisances or harm full vibration level /resonance is continuedly observed contractor should comply with the engineer's instruction to change the necessary equipment or part of the machineries.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical Observation and Community consultation, instrumental measurement during the piling activity	Regular Monitoring
	Lean concrete	Environmental damage due to transportation and use of natural resources and wood, Water quality degradation, Air quality degradation,	Provision of tight tarpaulin cover on delivery trucks to avoid spills and dust emission; and Prohibit burning of all types of wastes generated, Provision of rain water harvesting, Provision of day light control system, Light control based on motion and daylight, Maintain good ventilation, Construct septic tank, drainage system, watering soil at regular interval to reduce dust, Prohibit use of equipment and vehicles that emit dark sooty emissions, temporary storage area needs to be arranged, solid waste should be disposed in a secured manner and burning is prohibited, segregate and isolate hazardous waste from rest of the waste and workers and community.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Material transportation records, quantity of disposal of waste, discharged effluent/ Slurry and exec concrete,	
	Reinforced concrete works for structural elements.	Water quality degradation, Air quality degradation, Generation of waste,	Construct septic tank / sewage treatment plant, drainage system, spray water at regular interval to reduce dust, Reuse construction waste material, Cover material to avoid air blown particles, prohibit use of equipment and vehicles that emit dark sooty emissions, temporary storage area needs to be arranged, solid waste should be disposed in a secured manner and burning is prohibited, Provision of garbage bins. Excess concretes and mixed spoils should be disposed to authorized disposal yard.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Material transportation records, quantity of disposal of waste, discharged effluent/ Slurry and exec concrete,	

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	Brick works, Plastering and Finishing works including installation of necessary plumbing and Electrical accessories in the building	Generation of Solid waste, waste water, Dust and excessive noise,	Construct septic tank / sewage treatment plant, drainage system, watering soil at regular interval to reduce dust, temporary secured storage area needs to be arranged, Solid waste need to be segregated property and ensure secure disposal. Reuse construction waste material. Arrange separate bin for food waste.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Quantity and characterization of waste.	By weekly
	Supply and installation of tiled floors	Generation of mixed waste spoils including excess mortar, tile grout and residual waste, generate noise, waste water	Reduce residual waste by following proper measurements. Use sharp and appropriate machineries for tile cutting, Reuse construction waste material, arrange separate bin for the waste periodically cleaning the bins.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Quantity and characterization of waste.	By weekly
	Paint on interior and exterior walls	Generation of waste, noise, wastewater, hazardous waste generation	Reuse construction waste material, arrange separate bin for food waste, Paint and required solvent needs to be disposed in an encapsulated container. Door and windows will be closed and during the painting. Hazards waste will be collected in a separate bag and disposed securely. Provide proper ventilation and Personal Protective equipment to workers during painting works.  OHSAS standard complied Paint will only be used.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Quantity and characterization of waste.	Once in two weeks
	Installation of water supply and drainage system	There will be vibration, dust and noise which will disturb dwellers in the surrounding area.	Working time will be from 06.00 to 18.00 and Maximum Permissible Noise Levels of 65 dB at Boundaries will be maintain. PPE will be used by construction workers and waste, PVC, gums, tapes and etc. will be cleaned immediately / daily to minimize exposure or hazards. Construction schedule will be visible to general public. All construction machineries will be maintained in prime condition.  Special drill bits will be used to reduce vibration. Dust will not be going out by installing net (10mm). PM particles will be controlled by enclosing the sites in order to minimize the PM emission.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation of Vibration and Noise level Noise level (It should be less than 75 dB), Operations schedule	Once in two weeks
	Construction of septic tank	Disturbance to the surface runoff, accumulation of excavated soil in nearest drains. Possibility to contaminate shallow water table	Decide location keeping the adequate distance for nearest water sources and nearby buildings, adopting standard plumbing techniques to prevent potential leakage. Reuse construction waste material, Arrange separate bin for food waste. Follow the safe	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation	As per the construction schedule.



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	Electrical work	There will be vibration, dust and noise which will disturb dwellers in the surrounding area. Some cables may have Brominated Flame Retardants (BFR) which may be avoided during the installation of electricity. Eg: HIPS, ABS, PP and PC-ABS.	Temporary wiring will be reduced and only used for specific purpose. Supply of current will be regulated through introducing specification 12 - 15 windows will be installed to facilitate day light usage. Ensure water is leak proof and divert waste water to a septic tank, Install daylight control system. Simple trench will be set up to facilitate natural filtration.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation	As per the construction schedule.
	Construction of pavement	Reduce water recharge and facilitate local flooding	Pavement could be designed in a way that does not reduce water recharge significantly. Rain water harvesting system could be installed. Grass paver / paving blocks will be used to minimize water runoff and increase water recharge.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation	As per the construction schedule.
Operation	Cleaning new SACEP HQ building	Increase in water consumption for cleaning; Generation of wastewater; Potential release of micro-plastics and toxic chemicals and fumes; Generation of solid residues (non-recyclable components) which may need disposal or incineration; Contaminate groundwater and pollution ecosystem	Securely dispose waste, minimize utilization of chemical and ensure adequate ventilation, there could be a septic tank that could accommodate wastewater and sludge could be removed by respective local authority regularly for further treatment and disposal. Solid waste has to be segregated at source. Separate area and color will be dedicated for different types of waste. Toxic chemicals will be encapsulated to avoid contamination and risks.	Part of the construction cost	Construction team under UNOPS supervision	Engineer and Environmental Specialist of UNOPS,	Environment and Social Development Specialist SACE	Physical observation	As per the construction schedule.
	Conference and meeting	Consumption of energy, Generation of waste and untidy environment, waste water generation	Only one wall will be exposed to sunlight. This is 11.5 m glass wall will be installed to facilitate sunlight. Provision of day light control system, Light control based on motion and daylight, maintain good ventilation, Installation of sewage treatment plant, implement proper solid waste management system, Arrange separate bins for readily degradable waste, paper and plastic. Waste disposal should be secured from flooding, scavengers and rain. It has to be disposed in a secured manner and burning is prohibited.	SACEP operational Budget	ACEP Secretariate	Administrative officer		Physical observation and Utility bills record	Regularly
	Regular work	Traffic and road safety hazard and public safety measures of the building	Traffic and vehicular parking plan will be prepared for operation stage. Necessary fire hydrant and extinguisher will be installed adequately. Emergency evacuation facility has been incorporated in to the design. Provision of health and safety management plan, Implementation of use of personal protective equipment, Provision of potable water and adequate sanitation facilities will be available.	SACEP operational Budget	ACEP Secretariate	Administrative officer		Physical observation and Utility bills record	Regularly

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		Unplanned outage	Identification of potential cause; Provision of written management procedures, Regular inspection and maintenance of the backup power supplies and its Automatic Transfer Switch (ATS), Provision of written standard operating procedures (SOPs), Regular training of STP personnel on how to handle unplanned outages and emergencies	SACEP operational Budget	ACEP Secretariate	Administrative officer	Physical observation and emergency preparedness plan of SACEP	Regularly
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**Note: The Block No. 12,16, 17,18,19,21,23,24,25, 27,29,34,35 mentioned in the attached map have no deeds or valid title documents except ID card issued by the UDA. Regardless of ownership, risk to those structures and occupants is further covered through contractor's insurance and other methods/mitigation measures outlined in this addendum.**