Scaling-Up Water Supply, Sanitation, and Hygiene Project

IDA Project No.: SWSSHP (P-164901)

Contract Package: C1/W/23

CONTRACTOR'S ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (C-ESMP)

for

Water Supply Systems (Nam Papa) in Sinxay Cluster of Khoua District and Sophun Cluster of Mai District

Prepared by

Shanghai Construction Group Co., Ltd.

April 2025

GENERAL INFORMATION

Contract Package	C1/W/23 Construction of Water Supply Systems (Nam Papa) in Sinxay Cluster of Khoua District and Sophun Cluster of Mai District in Phongsaly province
Contractor	Contractor: Shanghai Construction Group Co., Ltd. Address: No. 681. Xiaomuqiao Road, Shanghai, (200032) China Representative: Mr. Zhang Liang Position: Project Manager Mobile Phone: 020 58023479 Email: scg.huangxiao@gmail.com
Contract Duration	Contract signing date: 30 May 2024 Start Date:12 June, 2024; End Date:10 August 2025 Total days: 425days
Contractor's reviewer	Mr. Zhang Liang
Issuance Date	10 April 2025
PMU/CSC Reviewer	Mr. Chanthepah, Project Manager Dr. Kulwant Singh, International Project Management and Monitoring Consultant Mr. Vilaysack, Construction Supervisor Ms. Sengdavanh Phongpaseuth, Environmental Safeguard Consultant. Mr. Sysouvanh Boubpha, Social Safeguard Consultant
Date of Approval	-
Distributed to	-PMU, PIU

CONTRACTOR'S COMMITMENT

We are Shanghai Construction Group Co., Ltd., the entity that will execute the C1/W/23 Construction of Water Supply Systems (Nam Papa) in Sinxay Cluster of Khoua district and Sophun Cluster of Mai District in Phongsaly province.

At required by the Project, herewith we submit the Contractor's Environmental and Social Management Plan (C-ESMP) for the above-mentioned contract package for consideration and approval by the CSC/PMU.

We know that there are potential environmental, health and safety risks and negative impacts at the constructions sites and at places disturbed by the construction activities. There are also the risks of social impacts and disturbances to the local communities and the public caused by construction activities and the labor influx. We are committed to complying with the Project's ESMP and ARAP requirements, the Environmental, Social, Health and Safety provisions stated in the bidding documents and construction contract. We also commit to fully implement measures to mitigate impacts and manage environmental, social, health and safety risks as highlighted in this C-ESMP throughout the implementation of this package.

CONTRACTOR'S REPRESENTATIVE

Mr. Zhangjiang
Project Manager
Shanghai Construction Group Co., Ltd.

Contents

List of Tables

List of Figures

1. Legal Basis

The Contractor's Environmental and Social Management Plan (C-ESMP) of the Contract package C1/W/23 has been prepared based on Lao's laws and legal regulations as listed in the Project's Environmental and Social Management Framework and the approved Environmental and Social Management Plan (ESMP) prepared for Sinxay Cluster of Khoua district and Sophun Cluster of Mai District in Phongsaly Province. This plan will also comply with the Environmental, Social, Health and Safety (ESHS) requirements specified in the bidding document.

2. Contractor's Policies on ESHS

Shanghai Construction Group Co., Ltd. (SCG) is committed to integrating environmental integrity, social fairness, and economic feasibility into its business processes. Our ESHS policy for WSS Cluster Projects, and generally for all our operations, aligns with international best practices and the requirements of the World Bank Environmental and Social Framework (ESF).

2.1 Environmental Protection.

- Strict compliance with applicable environmental laws and regulations of Lao PDR and international standards.
- Implementing measures to minimize air emissions (dust, vehicle emissions), water pollution (wastewater discharge, runoff), and soil contamination.
- Proper management, storage, and disposal of hazardous and non-hazardous waste.
- Controlling noise and vibration levels to minimize disturbance to local communities and wildlife.
- Utilizing energy-efficient equipment and practices.
- Implementing water-saving measures in construction and camp facilities.
- Minimizing waste generation through reduction, reuse, and recycling.
- Recognize the importance of protecting biodiversity and natural habitats.
- Assess potential impacts on local ecosystems and implement mitigation measures to minimize harm to flora and fauna

2.2 Social Responsibility and Community Engagement

- Carrying out our business under globally recognized social performance standards and will respect the community environment, culture, and customs in Phongsaly province.
- Conduct the engage with stakeholders in a timely, open, and transparent manner, including affected communities, local authorities, and non-governmental organizations.
- We will establish effective grievance mechanisms to address concerns and opinions.
- Provide the opportunities to maximize local benefits from the project, including local employment, procurement of local goods and services, and skills transfer.

2.3 Occupational Health and Safety

- The highest management goal is "zero death and zero injury." To compliance with the principle of "people-oriented, observing laws and regulations, and continuously ensuring the physical and mental health of all employees.
- Provide and maintain a safe working environment and conditions for all employees, including direct hires and subcontractors.

- Carry out comprehensive risk assessments and implement effective control measures to prevent accidents and occupational diseases.
- Provide necessary OHS training, information, and supervision to all employees to ensure they understand and follow safety procedures.
- Provide appropriate personal protective equipment (PPE) to all employees and supervise its proper use.
- Establish and maintain effective emergency response programs for potential accidents, including medical emergencies, fires, and natural disasters.
- Provide necessary health monitoring for employees and establish and improve health monitoring files, particularly for those exposed to specific occupational hazards.
- All accidents and incidents will be investigated in a timely and thorough manner to identify root causes and implement corrective actions to prevent recurrence.
- Promote equal employment opportunities regardless of gender, ethnicity, or other protected characteristics.
- Strictly prohibit forced labor and child labor in all our operations and supply chains.
  Comply with national labor laws and regulations regarding working hours, wages, and benefits.
  Establish and maintain an accessible and effective grievance mechanism for project workers to raise concerns without fear of retaliation.

3. Work Contents of Contract Package

The Subproject, under bid reference No. C1/W/23, involves constructing the Nam Papa water supply systems in the Sinxay Cluster of Khua District and the Sophun Cluster of Mai District, both located in Phongsaly Province. Each WSS will be constructed of the water supply system's facilities are summarized in Table 3-1 below and the WSSs cluster location are shown in Figure 3-1 to Figure 3-3.

TABLE 3-1 THE WSSS FACILITIES AND THEIR KEY FEATURES

Facilities	WSS Sinxay Cluster in Khoua District	WSS Sophun Cluster in Mai District
i. Water Intakes	Tyrolean Weir Elevation: 485mamsl; X= 211494 and Y =2333994	Tyrolean Weir Elevation: 478mamsl; X= 276975 and Y =2344422
ii. Raw water pipes (HDPE) from intake to WTP	2.8 km DN90-HDPE	6.4km DN90-HDPE
iii. Water Treatment Plan (WTP) (m^2)	6,325	1,804
Capacity Treatment Units	**150 m^3/day** Static mixer, steel clarifier tank, steel filter tank, steel reservoir, valve, pipe, and fitting	**160 m^3/day** Static mixer, steel clarifier tank, steel filter tank, steel reservoir, valve, pipe, and fitting
Operation house/Laboratory	7.6 m x14.1 m x5.15m (BxLxH)	7.6 m x14.1 m x5.15m (BxLxH)
Clear water reservoir	50 m^3	55 m^3
Back wash water tank	yes	yes
Sludge lagoons	35m^3 (5mx7mx1m)	35m^3 (5mx7mx1m)

Facilities	WSS Sinxay Cluster in Khoua District	WSS Sophun Cluster in Mai District
iv. Distribution pipes (HDPE) element (from source to taps	12.61 km DN160, DN110, DN 90 DN63, DN50	10.90 km DN110, DN 90, DN63, DN50
v. Household Connection Pipes	4.36km DN25. (218 HH connections)	4.4 Km DN25 (220HHs Connection)
vi. Office	9mx12mx7m (BxLxH)	9mx12mx7m (BxLxH)
vii. Access Road to the WTP	New access road Length: 475m and width: 5m	New access road Length:112m and width: 5m
viii. **Power Supply**	Yes, 50kVA transformer	Yes, 50kVA transformer
ix. Service Areas Serviced Population	Sinxay Village Population:851	Sophun and Sopnao Village Population:1,153

FIGURE 3-1 MAP OF THE WSS CLUSTERS LOCATION IN PHONGSALY PROVINCE

FIGURE 3-2 AERIAL PICTURE OF WSS SINXAY CLUSTER IN KHOUA DISTRICT, PHONGSALY PROVINCE

FIGURE 3-3 AERIAL PICTURE OF WSS SOPHUN CLUSTER IN MAI DISTRICT, PHONGSALY PROVINCE

4. Resource Mobilization

4.1 Machinery and equipment

The construction machineries and equipment will be mobilization to the construction site upon the notice to process issued by the PMU. The appropriate and good condition of the construction machine and equipment for the WSS construction are listed in Table 4-1 below.

TABLE 4-1 MACHINERY AND EQUIPMENT

Items	WSS Sinxay cluster in Khoua District		WSS Sophun cluster in Mai District	
	Quantity	**Condition [1]**	**Quantity**	**Condition**
Excavator (big size 18 tons)	1	80%	1	80%
Excavator (small size 3.5 tons)	1	80%	1	80%
Concrete mixing machine (big size 18 tons)	1	80%	1	80%
Concrete mixing truck (6-8 m^3)	1	80%	1	80%
Concrete pump truck (25 m)	1	80%	1	80%
Bulldozer	1	80%	1	80%
Dump truck (10wheels)	1	80%	1	80%
Dump truck (6wheels)	1	80%	1	80%
Generator	1	80%	1	80%
Concrete Vibrator	2	80%	2	80%
HDPE jointing machine	1	80%	1	80%
Pipe pressure test machine	1	80%	1	80%
Ford tractor	1	80%	1	80%

[1] Condition of machineries

4.2 Worker Mobilization

Approximately 61 staffs will be mobilized for the construction of both WSS facilities.

- **WSS Sinxay Cluster:** A total of 32 staffs will be hired for the project, comprising a project manager, a site manager, two site engineers, a foreman, seven skilled workers (two of whom are female), and 20 unskilled local workers.
- **WSS Sophun Cluster:** A total of 29 staff will be hired for the project, comprising a project manager, a site manager, two site engineers, a foreman, ten skilled workers (one of whom is female), and 14 unskilled local workers.

The project management structure for the Water Supply System (WSS) construction within Sinxay Cluster of Khua District and the Sophun Cluster of Mai District by SCG will comprise of a Project Manager who will provide oversight for both WSS clusters. Each WSS construction site will be assigned a dedicated Site Engineer responsible for the supervision of civil works and overall site management. Furthermore, an Environment, Social, Health and Safety Officer (ESHSO) will be designated for both construction sites to manage and monitor the implementation of the Contractor Environmental and Social Management Plan (CESMP) and Environmental and Social Management Plan (ESMP).

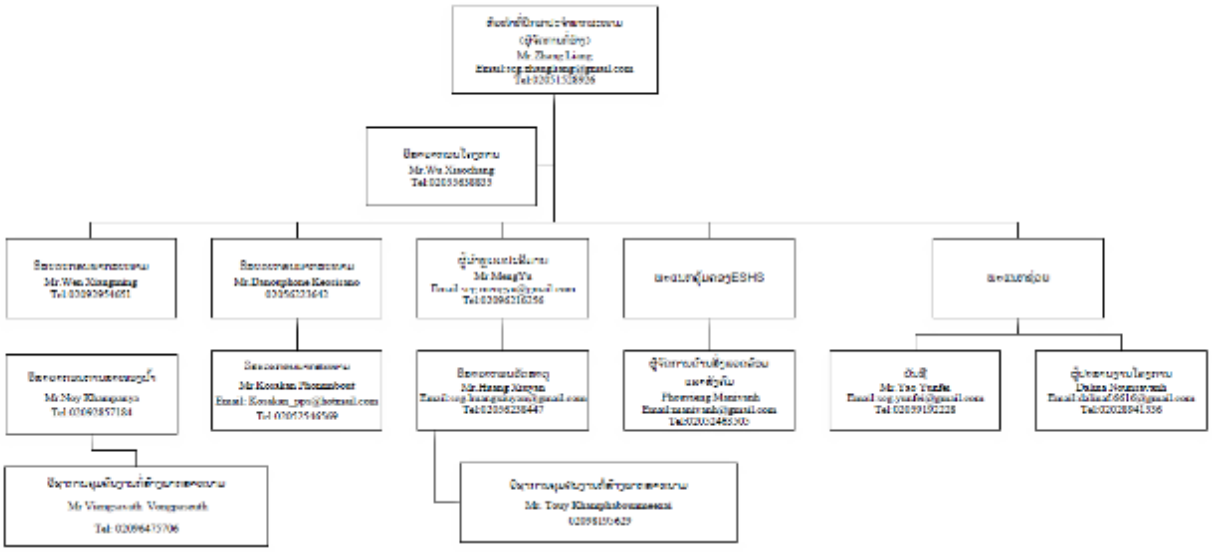


FIGURE 4-1 PERSONAL ORGANIZATION CHART FOR C1/W/23

Photo of Personnel

• ຫົວໜ້າທີ່ປຶກສາປະຈຳພາກສະໜາມ (ຜູ້ຈັດການກໍ່ສ້າງ) Mr.Zhang Liang Email:scg.zhangliang@gmail.com Tel:02051528926	
• ວິສະວະກອນໂຄງການ Mr.Wu Xiaochang Tel:02055638835	
• ວິສະວະກອນພາກສະໜາມ Mr.Wen Xiangming Tel:02092954651	
• ວິສະວະກອນພາກສະໜາມ Mr.Danouphone Keosisano 02056223642	
• ວິສະວະກອນພາກສະໜາມ Mr.Kosakan Phommabout Email: Kosakan_pps@hotmail.com Tel:02052546569	
• ວິສະວະກອນການສະໜອງນ້ຳ Mr.Noy Khampanya Tel:02092857184	
• ຜູ້ລ້ຳໜ້ວດປະລິມານ Mr.MengYu Email:scg.mengyu@gmail.com Tel:02096216256	

• ວິສະວະກອນວັດສະດຸ Mr.Huang Xiuyan Email:scg.huangxiuyan@gmail.com Tel:02056238447	
• ວິຊຸການຄຸມຄົນງານກໍ່ສ້າງພາກສະໜາມ Mr Viengsavath Vongpaseuth Tel: 02096475706	
• ວິຊຸການຄຸມຄົນງານກໍ່ສ້າງພາກສະໜາມ Mr. Touy Khamphabounmeexai 02098195629	
• ຜູ້ຈັດການດ້ານສິ່ງແວດລ້ອມແລະສັງຄົມ Phouvieng Manivanh Email:manivanh@gmail.com Tel:02052463505	
• ບັນຊີ Mr.Yao Yunfei Email:scg.yunfei@gmail.com Tel:02059192228	
• ຜູ້ປະສານງານໂຄງການ Dalina Nounsavanh Email:dalinaf.6616@gmail.com Tel:02028941536	

4.3 Roles and Responsibilities for Environment Social Health and Safety

a) Project Manager

- Responsible for the project's compliance to the Environmental and Social Management Plan (ESMP), Contractor's Environmental and Social Management Plan (C-ESMP), applicable national laws, and the World Bank safeguard policies.
- Provides leadership and ensures that ESHS is a priority throughout all phases of construction.
- Ensures adequate financial, human (including qualified ESHS personnel like the EHSO), and material resources are available for the effective implementation of ESHS measures.
- Makes critical decisions regarding ESHS issues, ensuring that corrective actions are promptly identified, implemented, and monitored.
- Ensures that all contractors and subcontractors understand and comply with their ESHS obligations as per their contracts and the C-ESMP.
- Serves as the primary point of contact for ESHS matters with the CSC, PIU and PMU and affected communities, as required.
- Reviews and approves the C-ESMP and ESHS Monthly reports from EHS Officers, ensuring timely submission to the PIU and PMU.
- Oversees the investigation of significant ESHS incidents or grievances, ensuring proper reporting, root cause analysis, and implementation of preventive measures.
- Manages the budget allocated for ESHS activities and mitigation measures.

b) Site Engineer

- The Site Engineer is responsible for the day-to-day operational implementation and supervision of environmental and social mitigation measures with their assigned cluster/ construction site with ESHSO.
- Ensure that all construction activities with their cluster are carried out in strict accordance with the ESMP and C-ESMP and all relevant ESH procedures.
- Directly supervises construction teams and subcontractors to ensure they understand and apply required ESHS measures on the ground.
- Conduct daily site inspection to identify and address potential ESHS risks, non-compliances and opportunities for improvement.
- Conduct daily toolbox talks and regular ESHS briefings for the workforce to reinforce ESHS awareness and procedures.
- Identifies immediate ESHS issues on site and takes prompt corrective action, escalating significant issues to the Site Manager or ESHSO as appropriate.
- Works collaboratively with the assigned Environment, Social, Health and Safety Officer (EHSO) to implement ESHS plans, resolve issues, and ensure compliance.
- Ensures that necessary ESHS equipment (e.g., PPE, spill kits, waste bins, warning signs) is available and properly utilized by the workforce.

c) Environmental, Social, Health, & Safety Officer (ESHSO)

The Environment, Social, Health, & Safety Officer (ESHSO) is the dedicated technical specialist responsible for the day-to-day implementation, monitoring, and reporting of all environmental, social, health, and safety (ESHS) aspects at their assigned construction site/cluster. They work under the direct supervision of the Site Engineer and report to the Site Manager on overall ESHS performance:

- Prepare the C-ESMP;
- Day-to-day implementation and supervision of CEMP.
- Works collaboratively with the Site Engineer and CSC to implement ESHS plans, resolve issues, and ensure compliance and conducting regular site inspections and internal environmental audits.
- Ensures the site-specific Contractor's Environmental and Social Management Plan (C-ESMP) is fully implemented by all site personnel, including subcontractors.
- Conduct regular ESHS briefings for all workers to cover ESCOPs, Codes of Conduct, and specific mitigation measures.
- Ensures that appropriate Personal Protective Equipment (PPE) is available, used correctly, and maintained by all workers;
- Oversees the proper segregation, storage, and disposal of all waste generated on site as per the C-ESMP;
- Provides regular updates on ESHS performance and any incidents or non-compliances to the Site Manager and EHSO.
- Addresses immediate, minor community concerns related to construction activities, escalating more complex grievances to the Site Manager.
- Preparing monthly environmental, social, health and safety monitoring reports.
- Responding to environmental incidents and complaints.
- Ensuring environmental permits and licenses are obtained and maintained

d) All Staff and Worker

- Strictly follow all established ESHS rules, regulations, procedures and instructions provided by the Site Manager, Site Engineer and ESHO.
- Immediately report any unsafe conditions, hazardous situations, equipment defects, accidents, incidents, or near-misses to the Site Engineer or the EHSO. Properly segregate and dispose of waste materials in the designated bins and area.
- Comply with the requirement C-ESMP and ESMP.
- Properly use and maintain all provided Personal Protective Equipment (PPE).
- Be mindful of their impact on the environment and surrounding communities.
- Show respect for local communities, their customs, traditions, and property.
- Comply to codes of conduct related to behavior, interaction with local people, and prevention of sensitive issues like gender-based violence (GBV) or child labor

4.4 Worker Accommodation and Temporary Storage Area Arrangement

Each worker camp will be constructed to ensure compliance with the requirements of the Environmental Codes of Practice (ECOPs), the ESCOP is provided in the appendix 1.

- First aid kits will be readily available in each worker accommodation
- Separate accommodation will be provided for male and female workers;
- Firefighting equipment and portable fire extinguishers will be provided and installed in all buildings.
- A perimeter security fence, at least 2 meters high, will be erected using suitable materials for site security.
- Sufficient natural light will be provided during the day, and adequate artificial lighting will be provided at night.
- Worker accommodations will have sufficient ventilation to ensure proper air circulation in all weather conditions;
- An adequate supply of safe potable water will be provided;
- Separate shower and toilet facilities for men and women will be provided, adjacent to the accommodation units.
- Adequate soap and hygienic paper will be provided.
- Garbage receptacles will be provided and periodically emptied to prevent disease outbreaks and maintain hygiene. Waste will be transported to the village landfill weekly for disposal. Company was allowed to use the landfill as agreement in Appendix 9.
- A separate canteen and kitchen will be installed.

4.4.1 WSS Sinxay Cluster

- A site office and main worker camp have been set up in a rented private house in Sinxay Village, owned by Ms. Koungna (The Rental House Contract is shown in the Appendix 1) in and located along Road No. 2E. This facility will serve as the accommodation for our site engineers and surveyors
- A temporary sub-camp for workers will be constructed at the Water Treatment Plant (WTP) construction. This camp will accommodate 10 workers. It will also include a temporary storage area for stockpiled aggregate material, cement, and steel bars.

FIGURE 4-2 MAP THE LOCATION OF SITE OFFICE, WORKER CAMPS AND SUB-CAMP IN SINXAY VILLAGE

FIGURE 4-3 SITE OFFICE AND WORKER CAMP IN SINXAY VILLAGE.

4.4.2 WSS Sophun Cluster

- A site office and main worker camp have been set up in a rented private house in Sophun Village, owned by Mr. Thieng (The Rental House Contract is shown in the Appendix 1) in and located along Road No. 2E. This facility will serve as the accommodation for our site engineers and surveyors.
- A temporary sub-camp for workers will be constructed at the Water Treatment Plant (WTP) construction. This camp will accommodate 10 workers. It will also include a temporary storage area for stockpiled aggregate material, cement, and steel bars.

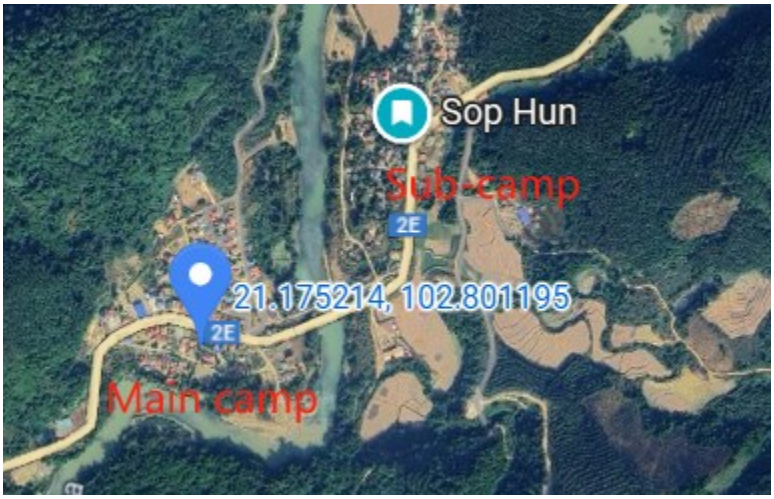


FIGURE 4-4 MAP THE LOCATION OF SITE OFFICE, WORKER CAMPS AND SUB-CAMP IN SOPHUN VILLAGE

FIGURE 4-5 SITE OFFICE AND WORKER CAMP IN SOPHUN VILLAGE

4.5 Earth Work

Given that the access roads and Water Treatment Plants (WTPs) for both Sinxay and Sophun Clusters are situated on elevated terrain, significant soil excavation is required for land leveling. The volumes of excavated and backfilling soil for the WSS Sinxay Cluster are presented Tables 4-2 and for the Sophun Cluster in Table 4-3.

TABLE 4-2 EXCAVATED MATERIAL AND BACKFILLING IN WSS SINXAY CLUSTER IN KHUA DISTRICT

	Facility	Excavation (m^3)	Backfilling (m^3)	Disposal (m^3)
1	Intake	45	45	0
2	WTP sites	45,914	45,914	0
3	Office			
4	Access Road			
5	Raw water pipe	8,087.36	6,469.96	1,617.4
6	Distribution pipe			
	Total	**54,046.36**	**52,428.96**	**1617.4**

TABLE 4-3 EXCAVATED MATERIAL AND BACKFILLING IN WSS SOPHUN CLUSTER IN MAI DISTRICT

	Facility	Excavation (m^3)	Backfilling (m^3)	Disposal (m^3)
1	Intake	45	45	0
2	WTP sites	17,217	15,217	0
3	Office			
4	Access Road			
5	Raw water pipe	11,019.84	8,816.04	2,203.8
6	Distribution pipe			
	Total:	**28,281.84**	**26,078.04**	**2,203.8**

4.6 Sand and Gravel

(1) Sinxay Cluster

Sand and gravel will be used as aggregate materials and for trench bedding during pipe installation. Over a thousand cubic meters of sand will be required for the construction of WSS cluster.

- Sand will be procured from Xinlilai Mineral Technology Sole Co., Ltd., located in Khua District, Phongsaly Province. (See the business license in Appendix 2)
- Gravel will be sourced from Chanleunxay Stone Crushing Plant, located in Lakhouaysu Village, La District, Oudomxay Province. (See the business license in Appendix 2)

(2) Sophun Cluster:

- Sand and gravel will be used as aggregate materials and for trench bedding during pipe installation. Over a thousand cubic meters of sand will be required for WSS cluster. Sand and Gravel will be procured Sand will be procured from Xinlilai Mineral Technology Sole Co., Ltd., located in Khua District, Phongsaly Province. (See the business license in Appendix 2)

Gravel will be sourced from Chanleunxay Stone Crushing Plant, located in Lakhouaysu Village, La District, Oudomxay Province. (See the business license in Appendix 2)

5. Environmental and Social Impacts and Risks, and Mitigation Measures.

Referring to the ESMP, the Contractor has identified the socio-environmental impacts and risks of the package as below:

- Generation of dust, exhaust gases, odors, noise, vibration Generation of solid waste from excavated soil, dredged sludge, construction waste and domestic waste from camps.
- Risks of pollution due to increased turbidity from stormwater runoff and wastewater emission.
- Soil erosion and sedimentation.
- Impacts and risks at quarries and borrowed land mines such as loss of vegetation and vegetation cover, soil slippage, erosion, safety risks, etc.
- Disturbance, damage to vegetation and greenery cover.
- Disturbances and increased traffic safety risks.
- Damage existing infrastructure and/or disrupt related services.
- Social disturbances, local insecurity and order related to worker concentration Risks to community and workers.
- Potential permanent and temporary impacts on private properties, specifically those related to land acquisition and access restrictions, have been identified. The anticipated impacts on properties for each WSS Cluster is summarized below:

WSS Sinxay Cluster

- The installation of the raw water pipe from the intake to the Water Treatment Plant (WTP) will temporarily impact the agricultural land of 9 households in Ban Sinxay.
- The construction of the access road to the Water Treatment Plant (WTP) will not require land acquisition (commual land), totaling an area of 6,325 square meters.
- The construction of the WSS will be constructed on communal land with no private land acquisition.
- The installation of the main clean water pipeline will temporarily affect the private residential land of 13 households.
- The construction of electricity poles will be located along the side way of the access road to the WTP that will not have any impact.

WSS Sophun cluster:

- The installation of the raw water pipe from the intake to the Water Treatment Plant (WTP) will temporarily impact the paddy fields of 17 households in Ban Sophun.
- The installation of the main clean water pipeline will temporarily affect the residential land of 13 households (9 HHs in Ban. Sophun and 4 HHs in Ban. Sopnao) .
- Construction of the access road to the WTP and WTP will require land acquisition from three households with total area of 1,400 square meters. These households have voluntarily contributed their land plots for the construction of the access road, as they will directly benefit from improved access to their properties the provision of free water supply system connections.

For the general impacts of construction activities listed above, the SCG are going to implement the mitigation measures to reduce environmental, social, health and safety impacts and risks in accordance

with the Environmental and Social Codes of Practice (ESCOPs) in Appendix 4 and enforce the workers to comply with the Code of Conduct presented in Appendix 5.

5.1 Site specific-Environmental and Social management Plan for WSS Sinxay Cluster in Khua District.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
1. Access Road to the WTP from main road. The length L=475m, width B=5m	   	The new access road from nation road No. 2E (Namnoy junction to Banyor road) will be constructed on village land Some road sections are covered by grass, bushes and vines. The ground elevation from the starting point to the end point is from 366 to 410mamsl. The slope gradient is approximately 11%.	The 11% slope, especially with vegetation removal and earthworks, presents a high risk of soil erosion. This can lead to sedimentation of the stream, impacting water quality and aquatic ecosystem.	▪ The excavation activities will be scheduled only during the dry season ▪ Install physical barriers and warning signs to alert the public to potential dangers. ▪ Clear and expose only necessary areas, working in phases to minimize open ground. ▪ Shape cut and fill slopes to mitigate landslide risks. ▪ Drainage systems such as culverts or ditches will be installed to divert water away from the road and prevent erosion ▪ Construct silt traps, trenches, or barriers to control material stockpile erosion. ▪ Initiate soil stabilization measures immediately following disturbance. ▪ Apply erosion control matting to disturbed soils and areas where vegetation has been removed. ▪ Heavy machinery and proper excavation techniques are used to excavate the hill; ▪ Grade and shape disturbed slopes before installing geotextiles and/or erosion control matting. ▪ The slope will plant the vetiver grass along the roadway to stabilize the hillside. ▪ Load materials and wastes carefully to prevent spills and restrict loading within designated boundaries.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Prohibit discharge of concrete washout, contaminated water, or construction waste into the stream
			Dust emission: Earthworks and vehicle movement will generate dust, impacting air quality for nearby houses and workers	▪ Excavation work will be avoided in periods of high wind. ▪ Spray water on transportation road particularly roads near residences and through the town core area and construction site during dry weather conditions to control dust emission ▪ Impose speed limits on construction vehicles; ▪ Transport of materials that may generate dust shall be covered with canvass or similar. ▪ The burning of site clearance debris (trees, undergrowth) or construction waste material is prohibited. ▪ Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals
			Noise Pollution Construction machinery (excavator, trucks) will generate noise, disturbing nearby residents and potentially wildlife	▪ Restrict noisy or vibration-generating construction activities during nighttime hours. ▪ Position noisy equipment, like diesel generators, away from sensitive areas such as homes or schools. ▪ Avoid using equipment that may result in high levels of vibrations.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Provide information to community on schedule of construction activities through billboard/signs.
			Waste Generation	▪ Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy and rainy days or disturbance from stray animals. ▪ Transport the spoil to disposal at approval disposition sites parallel with exaction work. ▪ Prohibit discharge of concrete washout, contaminated water, or construction waste into the stream. ▪ Strictly manage all construction waste to prevent spillage or dumping onto crops or gardens. Implement segregation and proper disposal at approved.
			Tree cutting, removal of vegetation cover	▪ Minimize disturbed area to minimize erosion risks, tree cutting and removal of vegetation cover; ▪ Conduct a tree survey and inventory of trees with a diameter greater than 20 cm and submit the results to the PIU/PMU for approval before cutting. ▪ Pegging/Fencing the construction area before starting construction work. ▪ Clearance outside of the approved construction area is prohibited
		The access road includes a section crossing the Nam Noy stream, which is 16m	Accident Risk on crossing the stream	▪ Develop a detailed method statement for the stream crossing, outlining step-by-step procedures, required equipment, and safety protocols.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
		wide, but there is no existing bridge. Cars, pickup trucks, and trucks can only pass the stream during the dry season. In rainy season, people can cross the stream on a temporary bridge.		▪ Install safety reflection guidance posts and warning signs along this path to clearly define the safe route and alert personnel to the crossing. ▪ Ensure heavy machinery and vehicles are operated on stable ground, sufficiently set back from the stream banks to prevent accidental rollovers or collapse. ▪ Securely store and handle construction materials (e.g., pipes, aggregates) to prevent accidental release into the stream. ▪ Implement strict speed limits and controlled movement protocols for vehicles operating near the stream. ▪ Prohibit refueling, lubrication, or maintenance of machinery within 50 meters of the stream or any water body to prevent spills. ▪ Conduct daily toolbox talks and specific safety briefings prior to commencing any work near or within the stream, focusing on identified hazards and control measures.
		At the junction with the main road, traffic density is low. Traffic count in a day: 4 Buses, 5 trucks, 10 Cars, pickup trucks: 18, 28 bicycles and motorcycles, 4 tractors.	Traffic safety risks at junction with the main road	▪ Place warning signs at the junction with the main road, provide lighting at night at this spot ▪ Place Construction Site, speed limit signs before the entrance to the access road ▪ Install signs about construction site, speed limit and warning signs at the junction with village road.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Arrange flag man to guide traffic when project vehicle density is high or trucks carrying bulky items enter the project sites. ▪ Fence off the construction site and install gates, barricades, and barriers to restrict access Provide PPE, including helmets, gloves, safety boots, high-visibility vests, masks, and ear protection, to all workers.
			Construction activities might temporarily disrupt access for residents to their farms	▪ Ensure continued access for affected households to their remaining land, homes, and water sources throughout the construction period. Provide temporary access roads or pathways as needed.
			Occupational and community health and safety	▪ Inform AO Officers and residential near by the construction site about construction schedule in advance ▪ Install clear warning signs, barricades, and fencing around active construction zones. ▪ Place clear and visible safety signs around the construction site to warn of potential hazards. ▪ Use barrier tape or fencing to mark off dangerous areas ▪ Provide safety briefings to workers and, where appropriate, to local communities on construction hazards. ▪ Restrict access to construction sites after working hours. ▪ Scheduling Truck Movement to avoid truck movement during school

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				opening and closing times to ensure the safety of children. ▪ Keep the construction site clean and free of debris to prevent tripping hazards. ▪ Equip the site with first aid kits and ensure that trained first aid personnel are always available. ▪ Provide adequate PPEs to the workers, advise them be observant to harmful insects ▪ Educate worker to wear the long sleeves, long pants, and insect repellent to minimize exposure ▪ Educate workers about insect hazards, prevention measures, and emergency procedures. ▪ Provide anti-mosquito/insect spray to workers and advise them to use it.
2. Power Supply for the WTP 150 m 22KV power lines will be built along the access road to connect to the grid network. A 50 KVA hanging transformer will be installed.		See the existing condition description above	The impact and risk for the ground works are similarly to the construction of access road above. Worker and community safety Risk.	▪ Install clear and durable warning signs (e.g., "Danger: High Voltage") on poles and near the transformer. ▪ Only certified and experienced electricians and linesmen with high-voltage training shall perform electrical works. ▪ Testing structures for integrity prior to undertaking work; ▪ Mandate and enforce the consistent use of appropriate PPE, including insulated gloves, safety shoes, hard hats, fall arrest harnesses, and arc flash resistant clothing. ▪ Implement fall protection measures in climbing protection measures.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Provide adequate work-positioning device system for workers. ▪ When operating power tools at height, workers should use a backup safety strap; ▪ Maintain strict minimum approach distances (MAD) to live electrical parts, as per national and international standards. ▪ Signs and other obstructions should be removed from poles or structures prior to undertaking work; ▪ An approved tool bag should be used for raising or lowering tools or materials to workers on structures. ▪ Clearly demarcate and cordon off all work areas with fencing, safety tape, and warning signs (in local language and symbols) to prevent unauthorized entry, especially from children. ▪ Conduct public awareness campaigns in collaboration with village authorities about the dangers of construction sites and electricity. Distribute safety leaflets. ▪ Implement traffic control measures (flag persons, temporary detours, cones) during pole installation and line stringing along the access road to ensure safe passage for vehicles and pedestrians. ▪ At the end of each workday, ensure all power line materials, tools, and equipment are securely stored and

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				no open trenches or unfinished electrical connections are left exposed. ▪ Install the transformer at a safe height and location, with appropriate grounding and physical barriers/fencing to prevent public access. ▪ Collect and properly dispose of all construction waste, including packaging and cable off-cuts. Ensure no debris is left in the environment.
3. Water Treatment Plant (WTP) A Water Treatment Plant (WTP) and its associated facilities—sludge lagoons, an operation house/laboratory, a clear water reservoir, and a water supply office—will be built on 2,500 square meters of communal land.	  	The empty communal land is on the top of a hill, in the middle of Khoua Agriculture Office's demonstration field (cultivation land, only bush and small trees, no big trees). No invasive plant species identified. Ground elevation is from 405 to 425 masl, slopes gradients is 40%. The excavated soil, estimated at 45,914 m³, will be fully utilized for backfilling and	Soil Erosion & Sedimentation The 40% slope gradient combined with large-scale excavation. poses an extremely high risk of severe soil erosion and subsequent sedimentation of downstream water bodies, especially during rainfall events Impact on Agricultural Activities. Proximity to the demonstration field	▪ Provide information to community on schedule of construction activities through billboard/signs ▪ Ensure stable cut and fill slopes are maintained, and minimize disturbance to areas beyond the designated work boundaries. ▪ Shape cut and fill slopes to mitigate landslide risks. ▪ Construct silt traps, deviation channels, mounting barriers or trenches around the stockpiles of materials ▪ Progressively stabilize exposed slopes immediately after excavation through compaction, re-vegetation, or temporary covering. ▪ Properly compact backfilled material in layers to achieve stability. ▪ Grade and shape disturbed slopes before installing geotextiles and/or

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
		leveling the affected land plots. Some snakes, bees, ants, insects, small birds, etc., were observed during the site visit.		erosion control matting (see detail in Appendix 6). ▪ Apply erosion control matting to disturbed soils and areas where vegetation has been removed. ▪ Heavy machinery and proper excavation techniques are used to excavate the hill; the slope will plant the vetiver grass along the roadway to stabilize the hillside. ▪ Drainage systems such as culverts or ditches will be installed to divert water away from the road and prevent erosion. ▪ Construct silt traps, deviation channels, mounting barriers or trenches around the stockpiles of materials ▪ Load materials and wastes within the WTP boundary, prevent spills to garden land. ▪ Implement landscaping and planting of trees/vegetation, using native plant species for greening at the WTP site.
			Dust Emissions**:** Extensive earthworks (excavation, backfilling, material hauling) will generate substantial dust, impacting air quality for the adjacent demonstration field and	▪ Excavation work will be avoided in periods of high wind. ▪ Impose speed limits on construction vehicles; ▪ Transport of materials that may generate dust shall be covered with canvass or similar. ▪ The burning of site clearance debris (trees, undergrowth) or construction waste material is prohibited.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			potentially nearby communities	▪ Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals ▪ Implement continuous watering of active excavation areas, spoil piles, access roads, and material stockpiles. Use dust screens, if necessary, especially near the demonstration field.
			Noise and Vibration: Heavy machinery operation will generate noise and vibration, disturb wildlife and potentially affect activities at the Khoua Agriculture Office	▪ Position noisy equipment, like diesel generators, away from sensitive areas such as homes or schools. ▪ Avoid using equipment that may result in high levels of vibrations. ▪ Provide information to community on schedule of construction activities through billboard/signs. ▪ Maintain equipment in good working order. ▪ Limit noisy activities to daytime hours. Consider temporary noise barriers if impacts on the Agriculture Office or nearby sensitive receptors are significant.
			Waste Generation: construction waste (concrete, rebar, packaging, cleared vegetation). Improper disposal can lead to land contamination and visual blight.	▪ Segregate waste (excavated soil, vegetation debris, general construction waste, hazardous waste). ▪ Reuse/recycle where possible. ▪ Transport all waste to approved disposal sites, ensuring proper permits and documentation

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Strictly manage all construction waste to prevent spillage or dumping onto crops or gardens. Implement segregation and proper disposal at approved.
			Occupational and community health and safety. Heavy machinery, excavation pits, and construction activities pose significant safety risks to anyone accessing the communal land or demonstration field. High risks associated with large-scale excavation (collapse of trenches, falling objects), working on steep slopes, and handling heavy machinery. Presence of snakes, bees, and other insects poses a risk of bites/stings to workers and potential	▪ Inform AO Officers and residential near by the construction site about construction schedule in advance. ▪ Install clear warning signs, barricades, and fencing around active construction zones. ▪ Place clear and visible safety signs around the construction site to warn of potential hazards. ▪ Use barrier tape or fencing to mark off dangerous areas ▪ Provide safety briefings to workers and, where appropriate, to local communities on construction hazards. ▪ Posting of safety signs/reminders in strategic areas within the construction area. ▪ Restrict access to construction sites after working hours. ▪ Scheduling Truck Movement to avoid truck movement during school opening and closing times to ensure the safety of children. ▪ Keep the construction site clean and free of debris to prevent tripping hazards. ▪ Equip the site with first aid kits and ensure that trained first aid personnel are always available.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			disturbance to their habitats.	▪ Provide adequate PPEs to the workers, advise them be observant to harmful insects ▪ Educate worker to wear the long sleeves, long pants, and insect repellent to minimize exposure ▪ Educate workers about insect hazards, prevention measures, and emergency procedures. ▪ Provide anti-mosquito/insect spray to workers and advise them to use it.
			significantly increase traffic on local roads, raising safety and dust concerns	▪ Provide information to community on schedule of construction activities and transportation routes through billboard/signs ▪ Place warning signs on the main road and road access to the Water Treatment Plant (WTP). ▪ Scheduling Truck Movement to avoid truck movement during school opening and closing times to ensure the safety of children. ▪ Set and enforce speed limits on the access road to control vehicle speed. ▪ Provide training for truck drivers to ensure they are aware of safety protocols and road regulations. ▪ Arrange for flag men to direct traffic when trucks are coming in and out of the construction site. ▪ Water the roads regularly to minimize dust. ▪ Install flashing lights so that truck drivers can observe houses during

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				dark hours, ensuring better visibility and safety
4. Transmission Pipelines The raw water pipeline will be laid underground at a depth of 0.7 to 1.2 meters. The width of pipe trenches ranges from 0.5 to 0.8 meters.	 	The raw water transmission pipe from the intake to the water treatment plant will be laid downstream of Houay Phea Brook passes the fallow land, agriculture land of 9 households and along the roadsides. Some sections of the roads run along hills on one side and valley at the other side.	Soil erosion and sedimentation Trenching (0.5-0.8m width, 0.7-1.2m depth) will disturb significant lengths of soil. On slopes (hillsides/valleys), this poses a risk of soil erosion and sedimentation of Houay Phea Brook	▪ "Cut-and-cover" method in short sections to minimize open trenches. ▪ Store topsoil separately from subsoil. Replace topsoil on top after backfilling to aid revegetation and soil fertility ▪ Backfill trenches immediately after pipe installation to reduce soil erosion. ▪ Ensure proper compaction of backfill material to prevent future settlement. ▪ Manage excess excavated spoil at approved, designated spoil sites with proper erosion control. ▪ Install silt traps and sediment fences near agricultural fields and water bodies. ▪ Cover soil stockpiles with to prevent erosion
			Laying pipes through agricultural land of 9 households will result in temporary loss of access and potential temporary or permanent damage to crops/land Risk of damage to crops from excavated spoil, construction waste, and machinery movement.	▪ Coordinate with affected households to allow them to harvest existing crops before construction begins on their land. ▪ Coordinate with farmers to schedule pipeline work during off-peak agricultural seasons and compensate for crop damage. ▪ Clearly mark the Right-of-Way (RoW) and limit construction activities strictly to this area. Use temporary fencing where adjacent to active fields.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ The pipelines will be laid along the border of the field and avoid laying out the pipelines in middle of the field to the extent possible. ▪ Prioritize hand-digging in sensitive areas to avoid damaging trees and cutting roots. ▪ Use small-duty excavators to handle large rocks and underground obstacles. ▪ Preserve tree roots by careful excavation or rerouting the pipeline when feasible. ▪ Demarcate and preserve vegetation and trees, avoiding unnecessary clearing. ▪ Keep equipment and materials away from protected vegetation areas. ▪ Avoid, minimize ground disturbance during peak cultivation period; ▪ Backfill trenches immediately after pipe installation. ▪ Support farmers to transport materials and products if construction affect accessibility to agricultural land; ▪ Disturbance to the ground will be kept minimal. ▪ MOM of land restoration will be made with affected households after completed restoration.
			Safety risks for the workers and the farmers	▪ Inform local residents about construction schedules and planned activities.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Install signage to warn of construction areas and ensure safe pedestrian crossings. ▪ Provide workers with PPE, including helmets, gloves, boots, masks, and eye protection. ▪ Wearing of PPEs while working on-site will be a mandatory requirement for workers ▪ Conduct safety briefings to address risks and proper use of tools and machinery. ▪ Remove rocks and debris from the site promptly and dispose of them in designated areas. ▪ Conduct daily inspections of the pipeline route to identify and mitigate unanticipated impacts.
5.Distribution Pipelines	 	The distribution pipeline will be laid alongside the new right-of-way of National Road No. 2E.	Block or disrupt access to house.	▪ Reinform community about construction schedules two days in advance; Request families to keep their children away from construction sites; ▪ Create safe temporary path if access if disrupted ▪ Backfill as soon as the pipe installation is completed ▪ Provide temporary access to the roadside house where access is disturbed ▪ Back fill the pipe trenches as soon as possible ▪
			Traffic disruptions and safety risks due to	▪ Avoid loading construction materials and waste within 20m from school

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
	 		construction activities near roads and residential areas.	gate and health centers, markets or any popular publicly accessible locations Install support in the pipe trenches at sections near the house foundation; ▪ Remove the waste from the site in parallel with excavation/pipe installation; ▪ Place warning signs and speed limit at 10 km/h along road sections where construction is on-going. ▪ Transport the excavated materials away within 24 hours since excavation.
			Health impacts due to dust and noise	▪ Clean up the road, watering dusty areas during working shifts ▪ Carry out construction in stages to minimize community exposure to open pipe trenches; ▪ water the road section passing the school and health care center if the weather is hot and dry, windy ▪ Avoid parking trucks, loading and unloading materials and wastes during peak traffic hours ▪ Inform the public in advance if construction takes place at nighttime ▪ Protect temporary materials and waste loads to prevent spills; ▪ Topsoil will be reserved and loaded in separate areas for reuse at the end of the disposal operation as cover material for the rehabilitation of the disposal site.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			The installation of the distribution pipeline poses significant safety risks to both workers and villagers due to open trenches, active equipment, and construction materials	▪ Designate clear, separate access routes for construction vehicles and personnel, distinct from public thoroughfares. ▪ Implement appropriate trench shoring, sloping, or benching systems based on soil conditions, depth, and duration of the trench opening, as per engineering standards. ▪ Regularly inspect trench integrity, especially after rain or ground disturbance. ▪ Post prominent, highly visible warning signs (in local language and pictograms) around trenches and hazardous areas, especially at night. ▪ Provide adequate lighting for all open trenches and active work areas, especially during evening or night work. ▪ Provide safe, well-marked, and sturdy crossings (bridges or ramps with handrails) over trenches for workers and, where absolutely necessary, for villagers, ensuring these are well-maintained. ▪ Limit the length of open trenches at any given time to the shortest feasible sections. ▪ Mandate and enforce the consistent use of appropriate PPE for all workers (hard hats, safety boots, high-visibility vests, gloves, eye protection, hearing protection, etc.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Do not park vehicles or temporarily load materials in front of the market and shops unless construction is on-going at these sites
			Damage to private properties, including house foundations, fences, and crops.	▪ Avoid laying out of the pipeline in the front yard. Contractor should layout the pipeline in Right of Way (ROW) between the road and front year. If there is any damage to the front yard, the contractor should repair it to its original condition. ▪ Fully reinstate the excavated area as soon as possible. ▪ Disturbance to the ground will be kept minimal. Establish the boundary of construction materials.
			The construction will temporarily affect 427 meters of cement slabs belonging to 13 households.	▪ Clearly mark the construction zone to prevent equipment or materials from unnecessarily encroaching on unaffected areas of the slabs. ▪ Where slabs are temporarily crossed by light equipment or used for staging, consider laying down protective sheeting, plywood, or steel plates to distribute weight and prevent direct contact damage. ▪ For areas directly over or adjacent to the slabs, prioritize manual digging where possible to minimize the risk of mechanical damage. ▪ Implement temporary repairs for any damage that might pose a safety hazard or cause further deterioration during construction.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ For minor damage, professional repair should be undertaken using matching materials. For significant or irreparable damage, the affected section of the slab must be completely replaced. ▪ Ensure that all repairs and replacements meet or exceed the quality and finish of the original cement slabs. ▪ After restoration, conduct a joint inspection with each of the 13 affected households. ▪ Obtain formal sign-off from the household representatives confirming their satisfaction with the restoration work. This could be a simple form acknowledging completion and acceptance. ▪ Provide fair and prompt compensation to affected households if their loss of crops and garden produce and MOM will be made after compensation. ▪ MOM of land restoration will be made with affected households after completed restoration.
6. Water Intake site.		Houay Phea is a small stream, lined the small bushes, vines, shrubs, small trees with diameters ranging from about 3 to 20 centimeters, bamboo. There are rocks, gravel	The construction of the weir foundation may pollute the downstream water source. - River bank erosion and sedimentation.	• Excavation weir foundation will be conducted in January 2025 • Install diversion earth dikes, drainage swales, and a sediment pond below the proposed water intake structure to minimize turbidity in the downstream water flow and maintain water flow in the downstream area.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
		and stones in the streambed and along the stream bank. Currently at the intake site, water is used for gardening etc. The water intake site can be accessed via a walking trail, and there are no local houses in the vicinity of the water intake, ensuring a pristine (in its natural state and unpolluted,) and undisturbed environment around the area.	- Excessive disturbance to the streambed will negatively impact aquatic habitats. - No water flow in downstream area.	• install a temporary culvert to maintain stream flow during intake construction; • Carefully conduct construction activities to minimize dropping of mortars into the stream. • Limiting disturbance to the steam bed as much as possible • Disturbed riverbanks will be rehabilitated immediately to minimize the risk of bank erosion and soil erosion into the stream.

5.2 Site-Specific Environmental and Social management Plan for WSS Sophun Cluster in Mai District

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
1. Access Road to the WTP from main road L = 112m, W = 5m	 	The existing ground elevation is from 412 to 420mamsl. The slope gradient is about 7%. The existing pathway to the proposed location of WTP is unpaved and narrow. This pathway will be upgraded to be the access road from the village to WTP. Both sides of this pathway are agricultural private land and rubber tree plantation of Sophun villagers. Land acquisition from three households with total area of 1,400 square meters for road construction. Traffic density in a day at the junction with the access road of the WTP is low: Pickup trucks: 3, Bicycles and motorcycles: 18, Trucks: 6, Tractors: 4	Erosion and sedimentation. Earthworks, posing a risk of localized soil erosion, especially during rainfall	• The excavation activities will be scheduled only during the dry season • Install physical barriers and warning signs to alert the public to potential dangers. • Clear and expose only necessary areas, working in phases to minimize open ground. • Shape cut and fill slopes to mitigate landslide risks. • Drainage systems such as culverts or ditches will be installed to divert water away from the road and prevent erosion • Construct silt traps, trenches, or barriers to control material stockpile erosion. • Initiate soil stabilization measures immediately following disturbance. • Apply erosion control matting to disturbed soils and areas where vegetation has been removed. • Heavy machinery and proper excavation techniques are used to excavate the hill; • Grade and shape disturbed slopes before installing geotextiles and/or erosion control matting. • The slope will plant the vetiver grass along the roadway to stabilize the hillside.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				• Load materials and wastes carefully to prevent spills and restrict loading within designated boundaries.
			Dust emission: Earthworks and vehicle movement will generate dust, impacting air quality for nearby houses and workers	▪ Excavation work will be avoided in periods of high wind. ▪ Spray water on transportation road particularly roads near residences and through the town core area and construction site during dry weather conditions to control dust emission ▪ Impose speed limits on construction vehicles; ▪ Transport of materials that may generate dust shall be covered with canvass or similar. ▪ The burning of site clearance debris (trees, undergrowth) or construction waste material is prohibited. • Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals
			Noise Pollution Construction machinery (excavator, trucks) will generate noise, disturbing nearby residents and potentially wildlife	▪ Restrict noisy or vibration-generating construction activities during nighttime hours. ▪ Position noisy equipment, like diesel generators, away from sensitive areas. ▪ Avoid using equipment that may result in high levels of vibrations. • Provide information to community on schedule of construction activities through billboard/signs

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			Waste Generation	▪ Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy and rainy days or disturbance from stray animals. ▪ Transport the spoil to disposal at approval disposition sites parallel with exaction work.
			Occupation and community health and Safety risks	▪ Provide information to community on schedule of construction activities through billboard/signs. ▪ Install clear warning signs, barricades, and fencing around active construction zones. ▪ Restrict access to the construction site to authorized personnel only. ▪ Ensure all workers wear appropriate personal protective equipment (PPE), such as helmets, gloves, safety boots, and reflective vests. ▪ Provide comprehensive safety training for all workers, including hazard recognition and emergency procedures. ▪ Conduct regular refresher occupational health and safety courses ▪ Place clear and visible safety signs around the construction site to warn of potential hazards. ▪ Use barrier tape or fencing to mark off dangerous areas.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Install guardrails, safety nets, and personal fall arrest systems where there is a risk of falling from heights. ▪ Keep the construction site clean and free of debris to prevent tripping hazards. • Equip the site with first aid kits and ensure that trained first aid personnel are always available.
			Traffic safety risks at junction with the main road	▪ . ▪ Place warning signs at the junction with the main road, provide lighting at night at this spot ▪ Place Construction Site, speed limit signs before the entrance to the access road ▪ Install signs about construction site, speed limit and warning signs at the junction with village road. ▪ Arrange flag man to guide traffic when project vehicle density is high or trucks carrying bulky items enter the project sites. • Fence off the construction site and install gates, barricades, and barriers to restrict access Provide PPE, including helmets, gloves, safety boots, high-visibility vests, masks, and ear protection, to all workers.
			The access road's construction will directly affect 3 households, as it passes through their	• Coordinate with affected households to allow them to harvest existing crops before construction begins on their land.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			agricultural land. This will likely lead to damage to gardens and crops from excavated soil, construction waste, and materials	• Schedule construction activities to avoid peak planting or harvesting seasons for critical crops where feasible. • Complete land leveling for the three households' remaining impacted land. • Clearly mark the approved Right-of-Way (RoW) with visible markers (e.g., ropes, flags) to prevent encroachment onto private agricultural land. • Erect temporary fencing or barriers around sensitive garden plots or crop areas immediately adjacent to the construction zone to protect them from accidental damage or dust. • Minimize disturbed areas, avoid damaging trees and vegetation cover • Carefully remove and separately stockpile fertile topsoil from the road alignment. This topsoil should be preserved for later rehabilitation of disturbed areas. • A retaining wall and/or interception ditch or settling ponds shall be built prior to the initiation of the construction activities. The surface runoff shall be retained and settled first before allowed discharge into the receiving water; • Promptly revegetate all disturbed areas with appropriate local plant species, including grass or crops, to stabilize soil and prevent erosion. • Provide fair and prompt compensation to affected households

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				if their loss of crops and garden produce. • Contractor will assist the project in measurement of remaining land plot size. • The affected households will receive compensation and support in the issuance of new land use certificates for the remaining area of the affected plot at the cost of the Project. • In case company activities cause more impact to land, crops and garden than mentions in ESMP, Company will provide fair and prompt compensation to affected households and MOM will be made after compensation.
			Tree cutting, removal of vegetation covers Twenty rubber trees, owned by three households, will be permanently impacted (Mr. Bounpheng: 10 trees, Mr. Khamnor: 6 trees, and Mr. Phanphik 4 trees	▪ Conduct consultation with rubber tree owner before start clearance work; ▪ Coordinate with affected households to allow them cutting the rubber tree before construction the access road begins. ▪ Get agreed with rubber trees owner be for cutting trees. ▪ Minimize disturbed areas, avoid damaging trees and vegetation cover ▪ Pegging/Fencing the construction area before starting construction work. • Clearance outside of the approved construction area is prohibited • More tree cutting than mentioned, in ESMP, company will provide fair and

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				prompt compensation to affected households and MOM will be made after compensation.
2. Power Supply for the WTP	 	110 m 22KV power lines will be built along the access road to connect to the grid network. A 50 KVA hanging transformer will be installed. See the existing condition description above	The impact and risk for the ground works are similarly to the construction of access road above. Occupational and community health and safety	▪ Install clear and durable warning signs (e.g., "Danger: High Voltage") on poles and near the transformer. ▪ Only certified and experienced electricians and linesmen with high-voltage training shall perform electrical works. ▪ Testing structures for integrity prior to undertaking work; ▪ Mandate and enforce the consistent use of appropriate PPE, including insulated gloves, safety shoes, hard hats, fall arrest harnesses, and arc flash resistant clothing. ▪ Implement fall protection measures in climbing protection measures. ▪ Provide adequate work-positioning device system for workers. ▪ When operating power tools at height, workers should use a backup safety strap; ▪ Maintain strict minimum approach distances (MAD) to live electrical parts, as per national and international standards. ▪ Signs and other obstructions should be removed from poles or structures prior to undertaking work; ▪ An approved tool bag should be used for raising or lowering tools or materials to workers on structures.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Clearly demarcate and cordon off all work areas with fencing, safety tape, and warning signs (in local language and symbols) to prevent unauthorized entry, especially from children. ▪ Conduct public awareness campaigns in collaboration with village authorities about the dangers of construction sites and electricity. Distribute safety leaflets. ▪ Implement traffic control measures (flag persons, temporary detours, cones) during pole installation and line stringing along the access road to ensure safe passage for vehicles and pedestrians. ▪ At the end of each workday, ensure all power line materials, tools, and equipment are securely stored and no open trenches or unfinished electrical connections are left exposed. ▪ Install the transformer at a safe height and location, with appropriate grounding and physical barriers/fencing to prevent public access. ▪ Collect and properly dispose of all construction waste, including packaging and cable off-cuts. Ensure no debris is left in the environment.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			Electric wires will effect on rubber trees alongside the access road in the future if improper installation of power supply poles	▪ Conduct public consultation with village authorities and households along the access road to select the suitable area for installation of power supply poles. ▪ Inform the village authorities and households along the access road prior installation 7 days.
3. Water Treatment Plant. A Water Treatment Plant (WTP) and its associated facilities sludge lagoons, an operation house/laboratory, a clear water reservoir will be built on 2,500 square meters of communal land.	 	The WTP is border with the bamboo forest and orchard in the north and south, with rubber plantation on the east and west. Land area: 2,500m2 (50x50m), on communal land. The ground elevation is from 414 to 424 mamsl, slope gradient is 20%. Land Area = 2,500 square meters, dimensions: 50mx50m Potential presence of small wildlife, such as snakes, bees, ants, insects, and small birds.	Excavation work may result in soil falling into nearby villagers' gardens, potentially damaging crops.	▪ Provide the community with information on the construction schedule through billboards or signs. ▪ Ensure stable cut and fill slopes are maintained, and minimize disturbance to areas beyond the designated work boundaries. ▪ Shape cut and fill slopes to mitigate landslide risks. ▪ Construct silt traps, deviation channels, mounting barriers or trenches around the stockpiles of materials ▪ Progressively stabilize exposed slopes immediately after excavation through compaction, re-vegetation, or temporary covering. ▪ Properly compact backfilled material in layers to achieve stability. ▪ Grade and shape disturbed slopes before installing geotextiles and/or erosion control matting (see detail in Appendix 4). ▪ Apply erosion control matting to disturbed soils and areas where vegetation has been removed.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Heavy machinery and proper excavation techniques are used to excavate the hill; the slope will plant the vetiver grass along the roadway to stabilize the hillside. ▪ Drainage systems such as culverts or ditches will be installed to divert water away from the road and prevent erosion. ▪ Construct silt traps, deviation channels, mounting barriers or trenches around the stockpiles of material. ▪ Load materials and wastes within the WTP boundary, prevent spills to garden land. ▪ Implement landscaping and planting of threes/vegetation, using native plant species for greening at WTP site. ▪ Remove the falling rock and soil out of the garden of the nearby private land as soon as possible. ▪ Provide fair and prompt compensation to affected households if their loss of part of land, crops and garden produce and MOM will be made after compensation.
			Dust Emissions: Extensive earthworks (excavation, backfilling, material	▪ Excavation work will be avoided in periods of high wind. ▪ Impose speed limits on construction vehicles; ▪ Transport of materials that may generate dust shall be covered with canvass or similar.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			hauling) will generate substantial dust, impacting air quality for the adjacent demonstration field and potentially nearby communities	▪ The burning of site clearance debris (trees, undergrowth) or construction waste material is prohibited. ▪ Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals ▪ Implement continuous watering of active excavation areas, spoil piles, access roads, and material stockpiles. Use dust screens, if necessary, especially near the demonstration field.
				▪ Fence off the construction site with gates and install barricades/barriers to restrict access. ▪ Install physical barriers to limit access to the construction site. ▪ Place warning signs at construction sites to alert people to potential dangers. ▪
			Noise and Vibration: Heavy machinery operation will generate noise and vibration, disturb wildlife and potentially affect the community nearby	▪ Position noisy equipment, like diesel generators, away from sensitive areas such as homes or schools. ▪ Avoid using equipment that may result in high levels of vibrations. ▪ Provide information to community on schedule of construction activities through billboard/signs. ▪ Maintain equipment in good working order. ▪ Limit noisy activities to daytime hours.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Require drivers to minimize honking and adhere to a speed limit of 10 km/h when driving in community areas.
			Waste Generation: Significant volumes of excess excavated soil (approx. 28,381 m^3), as well as general construction waste (concrete, rebar, packaging, cleared vegetation). Improper disposal can lead to land contamination and visual blight.	▪ Excavated material will be utilized to backfill the trench and/or ground leveling at the construction sites such as the WTP, access roads and pipe trenches. The contractor is required to properly reinstate the excavated trench after completion of pipe laying. ▪ Surplus excavated material/cut soil from construction of the WTP will be used as backfill material for low-lying areas that have been identified by the village authority. ▪ Non-hazardous construction waste shall be disposed of at a designated disposal site with the necessary environmental compliance certificate, as agreed with District Authorities. ▪ The contractor will segregate solid waste into hazardous and non-hazardous waste on a daily basis, and then further segregate into recyclable and non-recyclable waste. Recyclable waste includes plastic bottles, cans, and metal. Non-recyclable waste is likely to include wrappings, packaging, and construction waste. The waste fractions will be stored temporarily in bins or in fenced-off and covered enclosures.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ The contractor will bring recyclable waste to the local recycling dealer or shop - if there is one. If there is no local recycling dealer, the recyclables (still segregated) shall be brought to the waste disposal site as specified by the District Authorities for possible recycling by dealers operating there or disposed together with non-recyclable waste at that site. ▪ Disposal of waste (that is not recycled) is only allowed at the solid waste disposal site specified by the District Authorities. ▪ Open burning or burial of any form of waste or materials is strictly prohibited both onsite and offsite. ▪ Littering of waste is strictly prohibited.
			Occupational and community health and safety. Heavy machinery, excavation pits, and construction activities pose significant safety risks to anyone accessing the communal land or demonstration field.	▪ Inform residential near by the construction site about construction schedule in advance. ▪ Install clear warning signs, barricades, and fencing around active construction zones. ▪ Place clear and visible safety signs around the construction site to warn of potential hazards. ▪ Use barrier tape or fencing to mark off dangerous areas ▪ Provide safety briefings to workers and, where appropriate, to local communities on construction hazards.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			High risks associated with large-scale excavation (collapse of trenches, falling objects), working on steep slopes, and handling heavy machinery. Presence of snakes, bees, and other insects poses a risk of bites/stings to workers and potential disturbance to their habitats.	▪ Posting of safety signs/reminders in strategic areas within the construction area. ▪ Restrict access to construction sites after working hours. ▪ Scheduling truck Movement to avoid truck movement during school opening and closing times to ensure the safety of children. ▪ Keep the construction site clean and free of debris to prevent tripping hazards. ▪ Equip the site with first aid kits and ensure that trained first aid personnel are always available. ▪ Provide adequate PPEs to the workers, advise them be observant to harmful insects ▪ Educate worker to wear the long sleeves, long pants, and insect repellent to minimize exposure ▪ Educate workers about insect hazards, prevention measures, and emergency procedures. ▪ Provide anti-mosquito/insect spray to workers and advise them to use it.
			I increase traffic on local roads, raising safety and dust concerns (linked to the access road)	▪ Provide information to community on schedule of construction activities and transportation routes through billboard/signs ▪ Place warning signs on the main road and road access to the Water Treatment Plant (WTP). ▪ Scheduling truck Movement to avoid truck movement during school

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				opening and closing times to ensure the safety of children. ▪ Set and enforce speed limits on the access road to control vehicle speed. ▪ Provide training for truck drivers to ensure they are aware of safety protocols and road regulations. ▪ Arrange for flag men to direct traffic when trucks are coming in and out of the construction site. ▪ Water the roads regularly to minimize dust. ▪ Install flashing lights so that truck drivers can observe houses during dark hours, ensuring better visibility and safety
4. Water Supply Office		The proposed location in Sophun village's land	Safety risks for the workers and community	▪ Provide information to community on schedule of construction activities through billboard/signs. ▪ Fence off the construction site with gate and install barricades/barriers to restrict access. ▪ Install physical barriers to limit access to the construction site. ▪ Install barricades/barriers and sturdy plate covers in open excavations during non-working time. ▪ Install barriers and signs to limit access to the construction site. ▪ Place warning signs at construction sites to alert people to potential dangers. ▪ Construct silt traps, deviation channels, mounting barriers or

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				trenches around the stockpiles of materials. ▪ Provide adequate PPEs to the workers, advise them to be observant to harmful insects.
			Dust Emissions: Extensive earthworks (excavation, backfilling, material hauling) will generate substantial dust, impacting air quality for the adjacent demonstration field and potentially nearby communities	▪ Regularly spray water on excavation sites and roads to keep dust ▪ Excavation work will be avoided in periods of high wind. ▪ Impose speed limits on construction vehicles; ▪ Transport of materials that may generate dust shall be covered with canvass or similar. ▪ The burning of site clearance debris (trees, undergrowth) or construction waste material is prohibited. ▪ Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals ▪ Implement continuous watering of active excavation areas, spoil piles, access roads, and material stockpiles. Use dust screens, if necessary, especially near the demonstration field.
			Noise and Vibration: Heavy machinery operation will generate noise and vibration, disturb	▪ Position noisy equipment, like diesel generators, away from sensitive areas such as homes or schools. ▪ Avoid using equipment that may result in high levels of vibrations.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
			wildlife and potentially affect activities nearby community	▪ Provide information to community on schedule of construction activities through billboard/signs. ▪ Maintain equipment in good working order. ▪ Limit noisy activities to daytime hours.
5 .Transmission Pipelines	 	The raw water pipeline will be laid underground at a depth of 0.7 to 1.2 meters. The width of pipe trenches ranges from 0.5 to 0.8 meters. Raw water pipelines will pass through the community land. Some sections will traverse the rocky hill along the Houay Yei, following the community pathway to the farmland, and passing through the paddy land area of 17 households and agriculture land in Sophun village.	Installing the raw water pipelines underground in the rice fields and the agricultural land of 17 households will cause temporary impacts and obstructions to cultivation activities	▪ Coordinate with affected households to allow them to harvest existing crops before construction begins on their land. ▪ Coordinate with farmers to schedule pipeline work during off-peak agricultural seasons and compensate for crop damage. ▪ Clearly mark the Right-of-Way (RoW) and limit construction activities strictly to this area. Use temporary fencing where adjacent to active fields. ▪ The pipelines will be laid along the border of the field and avoid laying out the pipelines in middle of the field to the extent possible. ▪ Prioritize hand-digging in sensitive areas to avoid damaging trees and cutting roots. ▪ Use small-duty excavators to handle large rocks and underground obstacles. ▪ Preserve tree roots by careful excavation or rerouting the pipeline when feasible. ▪ Demarcate and preserve vegetation and trees, avoiding unnecessary clearing.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Keep equipment and materials away from protected vegetation areas. ▪ Avoid, minimize ground disturbance during peak cultivation period; ▪ Backfill trenches immediately after pipe installation. ▪ Support farmers to transport materials and products if construction affect accessibility to agricultural land; ▪ Disturbance to the ground will be kept minimal. ▪ MOM of land restoration will be made with affected households after completed restoration. ▪ Provide fair and prompt compensation to affected households if their loss of crops and garden produce and MOM will be made after compensation
			Soil erosion and sedimentation Trenching (0.5-0.8m width, 0.7-1.2m depth) will disturb significant lengths of soil. On slopes (hillsides/valleys), this poses a risk of soil erosion and sedimentation of Houay Yei	▪ Cut-and-cover" method in short sections to minimize open trenches. ▪ Store topsoil separately from subsoil. ▪ Replace topsoil on top after backfilling to aid revegetation and soil fertility ▪ Backfill trenches immediately after pipe installation to reduce soil erosion. ▪ Ensure proper compaction of backfill material to prevent future settlement. ▪ Manage excess excavated spoil at approved, designated spoil sites with proper erosion control.

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Install silt traps and sediment fences near agricultural fields and water bodies.
			Safety risks for the workers and the farmers	▪ Inform local residents about construction schedules and planned activities. ▪ Install signage to warn of construction areas and ensure safe pedestrian crossings. ▪ Provide workers with PPE, including helmets, gloves, boots, masks, and eye protection. ▪ Wearing of PPEs while working on-site will be a mandatory requirement for workers ▪ Conduct safety briefings to address risks and proper use of tools and machinery. ▪ Remove rocks and debris from the site promptly and dispose of them in designated areas. ▪ Conduct daily inspections of the pipeline route to identify and mitigate unanticipated impacts.
5. Distribution Pipelines The length L = 10.9Km		The distribution pipelines will be laid underground through front house of 13 households (9 HHs in Ban. Sophun and 3 HHs in Ban. Sopnao) and along the	Block or disrupt access to house.	▪ Reinform community about construction schedules two days in advance; ▪ Request families to keep their children away from construction sites; ▪ Create safe temporary path if access if disrupted ▪ Backfill as soon as the pipe installation is completed

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
		right-of-way (ROW) of National Road No. 2E,		▪ Provide temporary access to the roadside house where access is disturbed ▪ Back fill the pipe trenches as soon as possible
			Traffic disruptions and safety risks due to construction activities near roads and residential areas.	▪ Avoid loading construction materials and waste within 20m from school gate and health centers, markets or any popular publicly accessible locations Install support in the pipe trenches at sections near the house foundation; ▪ Remove the waste from the site in parallel with excavation/pipe installation; ▪ Place warning signs and speed limit at 10 km/h along road sections where construction is on-going. ▪ Transport the excavated materials away within 24 hours since excavation.
			Health impacts due to dust and noise	▪ Clean up the road, watering dusty areas during working shifts ▪ Carry out construction in stages to minimize community exposure to open pipe trenches; ▪ water the road section passing the school and health care center if the weather is hot and dry, windy ▪ Avoid parking trucks, loading and unloading materials and wastes during peak traffic hours ▪ Inform the public in advance if construction takes place at nighttime

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				▪ Protect temporary materials and waste loads to prevent spills;
			The installation of the distribution pipeline poses significant safety risks to both workers and villagers due to open trenches, active equipment, and construction materials	▪ Designate clear, separate access routes for construction vehicles and personnel, distinct from public thoroughfares. ▪ Implement appropriate trench shoring, sloping, or benching systems based on soil conditions, depth, and duration of the trench opening, as per engineering standards. ▪ Regularly inspect trench integrity, especially after rain or ground disturbance. ▪ Post prominent, highly visible warning signs (in local language and pictograms) around trenches and hazardous areas, especially at night. ▪ Provide adequate lighting for all open trenches and active work areas, especially during evening or night work. ▪ Provide safe, well-marked, and sturdy crossings (bridges or ramps with handrails) over trenches for workers and, where absolutely necessary, for villagers, ensuring these are well-maintained. ▪ Limit the length of open trenches at any given time to the shortest feasible sections. ▪ Mandate and enforce the consistent use of appropriate PPE for all workers (hard hats, safety boots, high-visibility

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				vests, gloves, eye protection, hearing protection, etc. ▪ Do not park vehicles or temporarily load material in front of the market and shop unless contraction is on-going at these sites.
			Impacting the frontage of 13 houses (9 HHs in Ban Sophun and 4 HHs in Ban Sopnao).	▪ If there is any damage to the front yard, the contractor should repair it to its original condition. ▪ Fully reinstate the excavated area as soon as possible. ▪ Disturbance to the ground will be kept minimal. ▪ Clearly mark the construction zone to prevent equipment or materials from unnecessarily encroaching on unaffected areas of the slabs. ▪ Where slabs are temporarily crossed by light equipment or used for staging, consider laying down protective sheeting, plywood, or steel plates to distribute weight and prevent direct contact damage. ▪ For areas directly over or adjacent to the slabs, prioritize manual digging where possible to minimize the risk of mechanical damage. ▪ Implement temporary repairs for any damage that might pose a safety hazard or cause further deterioration during construction. ▪ For minor damage, professional repair should be undertaken using matching materials. For significant or irreparable damage, the affected

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
				section of the slab must be completely replaced. ▪ Ensure that all repairs and replacements meet or exceed the quality and finish of the original cement slabs. ▪ After restoration, conduct a joint inspection with each of the 13 affected households. ▪ Obtain formal sign-off from the household representatives confirming their satisfaction with the restoration work. This could be a simple form acknowledging completion and acceptance. ▪ Provide fair and prompt compensation to affected households if their loss of crops and garden produce and MOM will be made after compensation. ▪ MOM of land restoration will be made with affected households after completed restoration.
6. Water Intake site.		Houay Yei is a small stream, lined the small bushes, vines, shrubs, small trees with diameters ranging from about 3 to 20 centimeters, bamboo. There are rocks and gravels in the streambed and along the stream bank. The water intake site can be accessed via a walking trail, and there are no local	The construction of the weir foundation may pollute the downstream water source. - River bank erosion and sedimentation. - Excessive disturbance to the streambed will	▪ Excavation weir foundation will be conducted on 12.2024 ▪ Install diversion earth dikes, drainage swales, and a sediment pond below the proposed water intake structure to minimize turbidity in the downstream water flow and maintain water flow in the downstream area. ▪ install a temporary culvert to maintain stream flow during intake construction;

Element and location	Photos, maps	Existing Condition.	Impacts, Risks	Specific Mitigation Measures
		houses in the vicinity of the water intake, ensuring a pristine (in its natural state and unpolluted,) and undisturbed environment around the area.	negatively impact aquatic habitats. - No water flow in downstream area.	▪ Carefully conduct construction activities to minimize dropping of mortars into the stream. ▪ Limiting disturbance to the steam bed as much as possible ▪ Disturbed riverbanks will be rehabilitated immediately to minimize the risk of bank erosion and soil erosion into the stream.

6. Capacity Building and Awareness Rasing

To ensure effective implementation and supervision of the Contractor's Environmental and Social Management Plan (C-ESMP), the capacity of contractor staff will be strengthened. All personnel will receive training to ensure a comprehensive understanding of project environmental and social management goals, methods, and practices. Construction Supervision Engineer The contractor's Health, and Safety (EHS) officer will conduct training sessions covering environmental management, Environmental Control and Operating Procedures (ECOPs), occupational health and safety, emergency response procedures, and the Code of Conduct. Capacity building will be achieved through pre-construction training and daily safety briefings. The training program details are summarized in the Table 6-1.

TABLE 6-1 TRAINING PROGRAM

Training	Attendees	Contents	Times	Duration
Understanding of C-ESMPs Implementation and monitoring	employees and workers	Mitigation measures defined in C-ESMP, ECOPs, Code of Conduct, Roles and Responsibilities, Monitoring.	Once before construction starts, repeated as needed	1 day
Occupation Health and Safety and Emergency response procedures	employees and workers	Construction site safety, first aid, PPE usage, firefighting.	once before and, repeat as needed	0.5 day
Safety talk	Workers	Construction site safety awareness	Daily, before start of work	15 minutes
Sexual exploitation and abuse (SEA) training	employees and workers	Prevent Sexual exploitation and abuse	Once before construction starts, repeated as needed	0.5 day

7. Grievance Redress Mechanism

Worker Grievance Redress

The Grievance Redress Mechanism (GRM) for the workers has been established to provide a transparent, accessible, and efficient process for workers to raise concerns, complaints, or grievances related to their employment or working conditions. This mechanism aims to:

- Ensure that all workers are treated fairly and equitably, regardless of their position or background.
- Provide a structured process for resolving disputes between workers and management in a timely and amicable manner.
- Minimize the escalation of conflicts by addressing issues promptly and effectively.
- Foster positive and harmonious relationships between workers and management.

- By addressing grievances, the GRM can boost employee morale and productivity.
- Use the feedback from grievances to identify areas for improvement in workplace practices and policies.

Any worker employed on the WSS Sinxay and Sophun Cluster construction such as workers directly employed by the main contractor are entitled to lodge complaints regarding any aspect of the working condition, well-being etc. these may include:

Workplace Safety:

- Unsafe working conditions
- Lack of safety equipment
- Inadequate safety training

Fair Wages and Benefits:

- Unpaid wages or delayed payments
- Incorrect calculation of wages or overtime
- Non-payment of benefits (e.g., social security, health insurance)

Working Hours:

- Excessive working hours
- Forced overtime
- Lack of rest breaks

Discrimination and Harassment:

- Discrimination based on race, gender, religion, or other factors
- Sexual harassment
- Bullying or intimidation

Contractual Issues:

- Breach of contract terms
- Unfair termination
- Non-compliance with Labour laws

Other Issues:

- Poor living conditions for workers
- Lack of access to clean water and sanitation
- Inadequate food provisions

Grievance Unit

The contractor will appoint a designated Grievance unit responsible for handling worker complaints. The grievance unit members are shown in table below

Name	Position	Contact Number	Work permission from GOL
Mr. Wu	Site manager and translator	020 55638835	
Mr. Phouvieng Manivanh	ESHS Officer	020 29987691	

Grievance Redress Procedure.

- **Step 1: Informal Resolution:**
  - Encourage workers to discuss concerns directly with their supervisor or foreman. Their concerns shall be solved within 2 days.
- **Step 2: Formal Grievance:**
  - If the issue remains unresolved, workers can submit a written grievance to the Grievance Unit. The grievance should include:
    - Worker's name and contact information
    - Date of the incident
    - Clear description of the grievance
    - Names of any witnesses
- **Step 3: Investigation:**
  - The Grievance Unit conducts a thorough investigation, interviewing relevant parties and reviewing documentation.
  - Maintain confidentiality throughout the process.
- **Step 4: Resolution:**
  - Based on the investigation, the Grievance Unit proposes a resolution, which may include:
    - Mediation between the worker and the supervisor
    - Corrective action for the supervisor or other involved parties
    - Compensation or other remedies for the worker
- **Step 5: PIU and PMU level**

If the worker is dissatisfied with the resolution at the contractor level within 5 days, they can appeal to PIU and PMU level. The PIU and PMU GRM focal point is shown in table below.

Name	Position	Contact Number
Mrs. Sompathana Dethoudom	Deputy Project Manager	020 92 895 919
Mr. Khao Kham	Head of PIU	02023909222
Mr. Ouhdaet	PIU Khua District	02028765430
Mr. Chommany	PIU Mai District	02055033435

Grievance Redress Mechanism for Project Affected Person

The Grievance Redress Mechanism (GRM) for project affected persons will adhere to the Scaling-Up Water Supply, Sanitation, and Hygiene Project (SWSHP) GRM, which was developed as part of the Environmental and Social Management Plan (ESMP) and Abbreviated Resettlement Plan (ARP) to meet the GRM requirements stipulated in the Environmental and Social Management Framework (ESMF) approved by the World Bank. This mechanism will address grievances related to environmental and social issues associated with the project, including issues related to land acquisition, and compensation.

All affected persons will be fully informed of their rights, and the detailed grievance redress procedures will be disseminated through a comprehensive public information campaign. An aggrieved affected person (AP) or affected household (AH) will be exempt from any fees associated with lodging and resolving complaints, as these costs will be borne by the Project Implementation Unit (PIU)/Project Management Unit (PMU) and contractor.

The grievance mechanism is based on key principles that will protect the rights and interest of project participants; ensure that their concerns are addressed in a prompt and timely manner, and that entitlements are provided in accordance with GoL and Bank safeguard policies. PIU/DPWT will ensure that communities directly affected by the Project have a full understanding of the GRM and ways to access it especially on (i) compensation for any involuntary acquisition of land and/or assets, and (ii) ensuring environmental and social mitigation measures in the ESMP's are implemented as planned. APs are entitled to lodge complaints regarding any aspect of the environmental and social impacts associated with the Project. The AP's complaints can be made verbally or in written form to the GRC or, alternatively, raise his/her voice in a public or individual meeting with project staff.

Type of GRM

Complainants are entitled to lodge complaints regarding any aspect of the project. Any affected person will be able to submit a grievance if they believe a practice is having a detrimental impact on the community, the environment, or on their quality of life. Eligible grievances or complaints include:

- Negative impacts on a person or a community (e.g. financial loss such as from loss of water, loss of roadside trees, health and safety issues, nuisances, etc.).
- Dangers to community health and safety or pollution of the environment.
- Hazards due to construction activities (e.g. noise, dust, disruption of access, etc.)
- Impacts on community infrastructure such as roads, road side drainage, etc.
- Failure to comply with standards or legal obligations.
- Improper conduct or unethical behaviour of contractor leading to nuisance of affected person(s).
- Misuse of funds and other irregularities.
- Grievances due to land acquisition, resettlement, compensation, relocation and unaddressed losses.

- Complaints related to gender issues.

Grievance Resolution Process

1. Complaints can be made verbally or in written form. It is recognized that in many cases, complainants do not have the writing skills or ability to express their grievances verbally, however, complainants are encouraged to seek assistance from family members or village heads, to have their grievances recorded in writing and to ensure that where disputes do occur and all the details have been recorded accurately enabling all parties to be treated fairly. In the case of verbal complaints, a written record of the complaint will be made during the first meeting with the complainant. Complainants who present their complaints within the prescribed procedures will be exempt from all administrative fees incurred. In addition, complainants who lodge complaints and appeals to district courts will be provided with free legal representation. The procedures for the grievance resolution process for the subproject are detailed as below.

Stage 1: In the first instance, Aps will address complaints on any aspect of compensation, relocation or unaddressed losses to the Village Grievance Redress Committee (VGRC) or other designated village grievance officers. The VGRC will organize a meeting with the complainants to resolve the issue using its traditional methods of conciliation and negotiation; the meeting will be held in a public place and will be opened to other Aps and villagers to ensure transparency. The VGRC aims at clarification and amicable solution agreed with the subproject.

Stage 2: If after 10 days of lodging the complaint, no understanding or amicable solution can be reached or no response is received from the Village Grievance Redress Committee, the complainant can bring the complaint to the District/Provincial GRC. The District/Provincial GRC will be involved to meet with the complainant and VGRC to discuss the complaint and provide a decision at mutual arrangement within 15 days of receiving the appeal.

Stage 3: If the AP is still not satisfied with the decision of the PGRC, or in the absence of any response within the stipulated time, the complainant can submit his/her grievance to Department of Water Supply. The DWS will act on behalf of the MPWT. It may consider seeking external opinion on this matter and the appeal must be resolved within 20 days of receiving the appeal.

Stage 4: As a last resort, the AP may submit his/her case to the Court of Law. The complaint will be lodged with the Court of Law; the decision of the Court will be final.

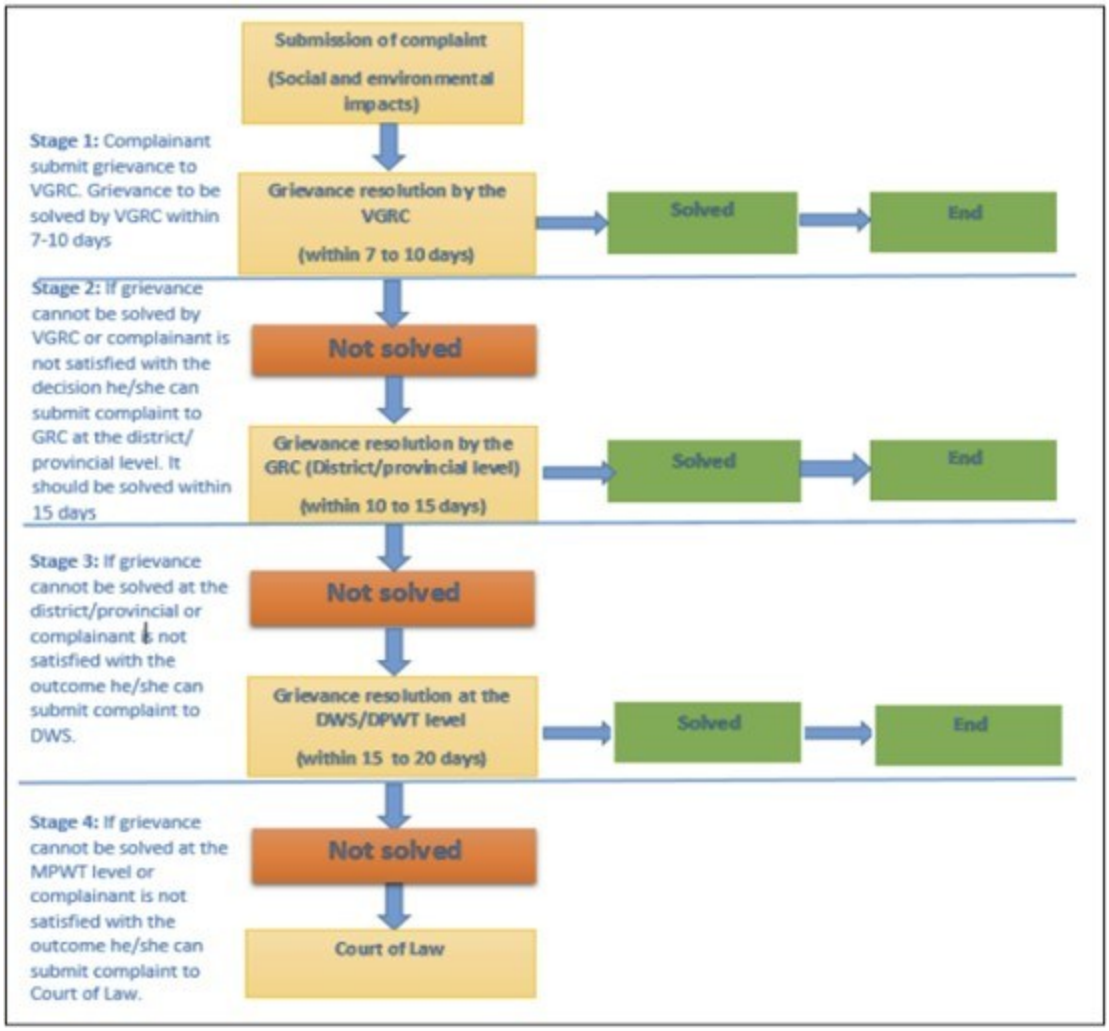


FIGURE 7-1 GRM PROCEDURE

The list of contact person for grievance procedures is summarized in the following Table 7-1

TABLE 7-1 LIST OF GRM CONTACT PERSON

No.	Name	Position	Phone Number
Contractor' staffs			
1	Mr.Fang	Site Manager	020 54100823
2	Mr.Wu	Site Manager	020 55638835
3	Mr. Tang	Environment, Social, Health and Safety Officer	020 29987691
District and Provincial focal person			
1	Mr. Khao Kham	Head of PIU	02023909222
2	Mr. Ouhdaet	PIU Khua District	02028765430

3	Mr. Chommany	PIU Mai District	02055033435

8. Monitoring and Reporting

Monitoring

Throughout the WSS construction period, the contractor will ensure adherence to the mitigation measures specified in the Environmental and Social Management Plan (ESMP) and Environmental and Codes of Practices (ESCOP) for the pre-construction and construction phases. Furthermore, the contractor will conduct continuous monitoring of the environmental consequences arising from the construction activities. The objective of the monitoring plan is to assess the efficacy of the prescribed mitigation measures and to identify any unanticipated environmental effects of the WSS project. The monitoring program encompasses the scope of monitoring and supervision, environmental media, monitoring parameters, monitoring frequency and schedule, and implementation roles.

The Contractor will be mobilized, full time, an Environmental Health and Safety Officer (EHSO) to follow up daily the construction activities, both the WSS construction sites.

TABLE 8-1 ENVIRONMENTAL AND SOCIAL MONITORING PLAN FOR CONSTRUCTION PHASE

Environmental and Social Issue	Location, Parameters Monitoring Technique	Responsibility and Frequency
Soil Erosion	**Method, Location:** Visual inspection of Access Roads, WTP, Water supply Office, Transmission Pipes **Parameters:** (i) adequacy of soil erosion prevention measures; (ii) adequacy of soil contamination prevention techniques; (iii) evidence of excessive soil erosion or soil contamination	EHSO -Daily CSC-Weekly
Vegetation/Trees	**Method, Location:** Visual inspection of all construction sites **Parameters:** adequacy of vegetation protection measures; evidence of damage to vegetation; compliance with approved tree removal and landscaping plan	EHSO -Daily CSC-Weekly
Dust, Noise and Vibration	**Method, Location:** Visual inspection of all construction sites **Parameters:** adequacy of dust, noise and vibration prevention and mitigation measures implantation.	EHSO -Daily CSC-Weekly
Construction site health and safety	**Method, Location:** Visual inspection and interviews with construction workers and contractors at all construction sites, check the record **Parameters:** (i) adherence to the approved ESCOP and C-ESMP; and (ii) worker complaints and concerns and reported accidents/incidents	EHSO -Daily CSC-Weekly

Community Health and Safety	**Method, Location:** Visual inspection of all construction sites, informal interviews with nearby residents **Parameters**: (i) adherence to specific mitigation measure for traffic safety risk; (ii) adequacy of construction site signage and fencing; (iii) adequacy of temporary noise mitigation measures; (iv) accidents involving public and workers; (v) emergencies and responses; (v) public complaints about noise, air pollution, construction site safety etc.	EHSO -Daily CSC-Monthly
Private and community property disturbance	**Method, Location**: inform and consult with the affected permanent and temporary households from WTP, access road, transmission waterpipes and distribution pipelines construction site. Visual inspection of restoration of the affected sites to original condition. Project will compensate and issue land title for the remaining land. Contractor compensation if any more impact than in ARAP and ESMP. **Parameter**: (i) evidence of compensation agreement; (ii). evidence of issue land title deeds for the remaining land; (iii) evidence of restoration of the affected sites	ESHO-Weekly
Induced traffic disturbance	**Method, Location:** Visual inspection along construction sites and transportation roads, informal interviews with affected people, consultation of local traffic police **Parameters:** (i) adequacy of, and compliance with specific mitigation measures for traffic safety risk; (ii) satisfaction of affected people; (iii) warning and traffic signs were installed adequate and properly.	ESHO-Weekly CSC-Monthly
GRM Monitoring	**Method, Location: R**ecorded complaints and resolutions, availability of ant pending issues **Parameters:** complaint register, number of received and resolved grievances	EHSO -Daily CSC-Weekly

Reporting

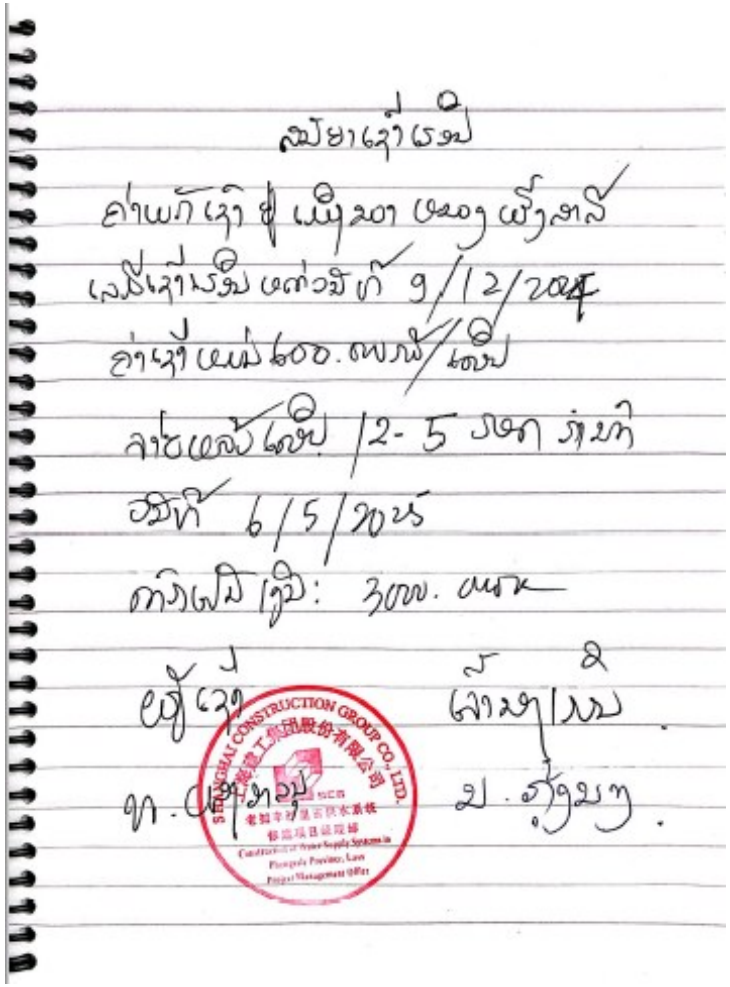
Contractor's Environmental, Social, Health, and Safety (ESHS) performance at construction sites will be directly monitored and supervised by the Site Construction Supervision Engineer. This engineer will prepare a monthly ESHS monitoring report for submission to the Project Implementation Unit (PIU).

The Construction Supervision Engineer will submit a monthly progress report that includes an ESHS section (see the template in Appendix 4). This section will summarize compliance with ESMP/C-ESMP requirements, implementation of mitigation measures, monitoring activities, received complaints and responses, and any Health, Safety, and Environment (HSE) accidents.

In the event of any accident, the Construction Supervision Engineer shall report to the PIU/Project Management Unit (PMU) within 24 hours. A detailed accident report shall be submitted to the PMU within one week.

9. Appendix

APPENDIX 1 HOUSE RENTAL AGREEMENT



House rental Agreement with Ms. Kungna in Sinxay Village.

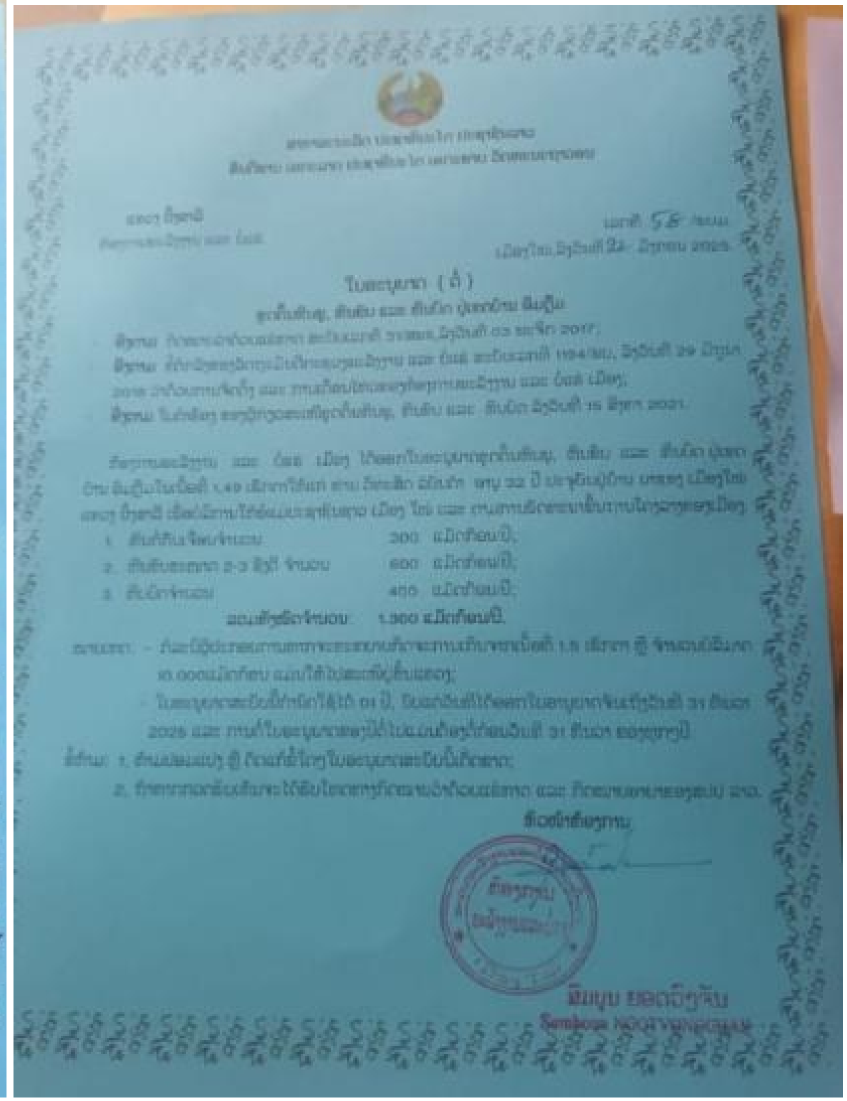
House rental Agreement with Mr. Thieng in May District

APPENDIX 2 SAND AND GRAVEL SUPPLIER'S BUSINESS LICENSES (WSS-SINXAY CLUSTER)


Xinfai Mineral Technology Sole Co.,Ltd.
20,000,000,000
02-00002309
5 0 8 8 1 7 7 1 8 - 9 - 0 0


XVII
31 / 2017
903/ 20 2022
10/11/2023
16/11/2023
55
020 2888 2344
4,07
2,700,000,000
01/01/2024 31/12/2024 01
4.000 m³/ 4.000 m³/ 3.000 m³/

APPENDIX 3 SAND AND GRAVEL SUPPLIER'S BUSINESS LICENSES (WSS-SOPHUN CLUSTER).



APPENDIX 4 ENVIRONMENTAL AND SOCIAL CODES OF PRACTICE (ESCOP)

Impacts/Risks	Mitigation Measure	Responsibility	
		Implementation	Supervisor/approval
1. Soil Erosion and Sedimentation	• Excavation works shall be scheduled during the dry season to the extent practical to avoid carrying out excavation works during heavy rainfall periods. • Construction activities shall be carefully planned to minimize disturbed areas and to preserve existing vegetation, which minimizes the potential of removing existing trees that protect soil from erosion. • Diversion structures, such as earth dikes and drainage swales, shall be installed along paved surfaces, the top of slopes and below areas where runoff starts to concentrate, to divert off-site water runoff during construction and limit the exposure of disturbed sediments to moving water. • Silt traps/sedimentation basins/settlement pond to capture and detain construction site runoff shall be installed. • Slope failure protection should be considered during construction and after construction (operation). • All works at or near the river must be rehabilitated immediately, to minimize the risk of bank erosion and soil being washed into the river. • The contractor will be prohibited from quarrying materials directly from any river. Construction materials will be procured from Government-permitted sources/ suppliers only. • Construct silt traps, deviation channels, mounting barriers or trenches around the stockpiles of materials.	Contractor	Social Safeguard and - Environment Specialists; PMU and PIU
2. Air Quality reduction, dust generation	• Spray water on access roads and construction sites during dry weather conditions to control dust emission, particularly roads near residences and through the town core area. • Impose speed limits on construction vehicles. • Excavation work will be avoided in periods of high wind. • The contractor will comply with a 10 km/h speed limit when in the community area. • Transport of materials that may generate dust shall be covered with canvass or similar. • Install temporary fens or barriers around the subproject facility construction site. • The burning of site clearance debris (trees, undergrowth) or construction waste material is prohibited. • Keep the stockpile of aggregate material covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals. • Regularly maintain the construction machines to ensure they are in good condition.	Contractor	Social Safeguard and - Environment Specialists; PMU and PIU
3. Noise and Vibration	• Limit construction activities, particularly operation of noise/vibration generating equipment at night. • Position any stationary equipment that produces high noise levels such as diesel generators as far as practical from sensitive receptors.		

Impacts/Risks	Mitigation Measure	Responsibility	
		Implementation	**Supervisor/approval**
	• Install temporary fens or barriers around the subproject facility construction site especially near schools, healthcare stations and houses. • Require drivers to minimize honking and to comply with speed limits of 10 km/h when driving in community area. • Provide information to community on schedule of construction activities through billboard/signs. • Avoid using equipment that may result in high levels of vibrations		
4. Impacts and risks to biodiversity	• The contractors will prohibit activities such as cutting wood for cooking, harvesting and hunting, or wildlife trade. • Cutting of trees will be undertaken as per approved design and only upon approval of relevant authorities. Avoid the cutting of trees as much as possible and minimize damage to native vegetation. • Conduct a trees survey within the subproject area. For trees that need to be cut off on private land, the owner will be compensated in cash by the PIU in accordance with the approved Land Acquisition and Compensation Plan.The width of roads and paths to the intakes and the WTPs, will be kept to a minimum, only to accommodate the construction. • The use of vehicles/equipment will be kept to a minimum to reduce the land acquisition required. Manual labor will be utilized in sloping terrain where use of heavy equipment would cause unnecessary damage. Steep exposed slopes will be graded and covered with bush and grass to minimize erosion. • Implement landscaping and planting of trees/vegetation, using native plant species for greening at the WTP site	Contractor	Social Safeguard and - Environment Specialists; PMU and PIU
5. Impact and Risks on Private and community assets	• Build access roads to minimum necessary width. • installation of pipelines within the Right-of-Way when feasible. Protect slopes where excavation potentially affect existing housing/shop structures.	Contractor	Social Safeguard and Environment Specialists; PMU and PIU
6. Disruption to traffic and pedestrians' access to properties	• Prepare and implement measures for temporary traffic management prior to construction to ensure road safety. The plan should include provisions for diverting or scheduling construction traffic to avoid morning and afternoon peak traffic hours. • Walking access will be maintained to affected properties and access routes will be temporarily lined with suitable material. Particular attention will be given to ensuring safety along roads and paths used by pedestrians, including school children. • Side street parking of construction vehicles on prolonged basis will not be allowed. • Install barriers and safety warning signs on road sections and, if necessary, deploy traffic aides/ flag persons at affected locations. Information boards at blocked roads will provide information about the temporary closure of roads, schedule of works, and the traffic-rerouting plan.	Contractor	Social Safeguard and Environment Specialists; PMU and PIU

Impacts/Risks	Mitigation Measure	Responsibility	
		Implementation	**Supervisor/approval**
	• Ensure the contractor immediately rehabilitates excavated or disturbed areas and any damaged road and path sections or any other existing infrastructure and the related services.		
7. Risks on Relics and artifacts exposure Chance Find Procedures	• The Contractor will ensure that the workforce is briefed that in the event of accidental finds relics they should immediately cease any works in the area and promptly report the find to their supervisor. • If the contractor discovers archeological sites, historical site, remains and objects, including graveyards, and/or individual graves during excavation or construction, the Contractor will carry out the following steps[2]: ▪ Stop the construction activities in the area of the chance find; ▪ Delineate the discovered site or area; ▪ Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities, or the National Culture Administration take over; ▪ Notify the project engineer, supervisor (CSC), and/or PSC who in turn will notify the responsible local authorities and the provincial Culture Department immediately (within 24 hours or less); ▪ Responsible local authorities and the provincial Culture Department would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of ▪ National Culture Administration. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values. ▪ Decisions on how to handle the finding shall be taken by the responsible authorities and the provincial Culture Department. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage; ▪ Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities; and ▪ Construction work could resume only after permission is given from the responsible local authorities or the provincial Culture Department concerning safeguard of the heritage.	Contractor	Social Safeguard and Environment Specialists; PMU and PIU

[2] Refer to the Table 6-3 Environmental and Social Codes of Practices is based on ESMP

Impacts/Risks	Mitigation Measure	Responsibility	
		Implementation	**Supervisor/approval**
8. Generation Solid Waste	• Excavated material will be utilized to backfill the trench and/or ground leveling at the construction sites such as the WTP, access roads and pipe trenches. The contractor is required to properly reinstate the excavated trench after completion of pipe laying. • Surplus excavated material/cut soil from construction of the WTP will be used as backfill material for low-lying areas that have been identified by the village authority.[3] • Non-hazardous construction waste shall be disposed of at a designated disposal site with the necessary environmental compliance certificate, as agreed with District Authorities. • The contractor will segregate solid waste into hazardous and non-hazardous waste on a daily basis, and then further segregate into recyclable and non-recyclable waste. Recyclable waste includes plastic bottles, cans, and metal. Non-recyclable waste is likely to include wrappings, packaging, and construction waste. The waste fractions will be stored temporarily in bins or in fenced-off and covered enclosures. • The contractor will bring recyclable waste to the local recycling dealer or shop - if there is one. If there is no local recycling dealer, the recyclables (still segregated) shall be brought to the waste disposal site as specified by the District Authorities for possible recycling by dealers operating there or disposed together with non-recyclable waste at that site. • Disposal of waste (that is not recycled) is only allowed at the solid waste disposal site specified by the District Authorities. • Open burning or burial of any form of waste or materials is strictly prohibited both onsite and offsite. • Littering of waste is strictly prohibited	Contractor	Social Safeguard and Environment Specialists; PMU and PIU
9. Occupational Health and Safety	The Contractor will appoint a Site Manager or his/her representative with the appropriate qualifications in environmental and occupational health and safety associated with the implementation of the ECOP, the Labor Management Plan and Environmental, Health and Safety of IFC (http://www.ifc.org/ehsguidelines(. **Site sanitation** • The contractor will install the Worker Camp in an area far enough from water sources, houses and sensitive areas and in consultation with the community; • The contractor will be responsible for reinstatements of temporary disturbed areas by camp and site offices work completion. • Provide an adequate number of latrines and other sanitary arrangements at the site and work areas, and ensure that they are cleaned and maintained to a hygienic standard; • The contractor should make separate arrangements for men and women workers.	Contractor	Social Safeguard and Environment Specialists; PMU and PIU

[3] Refer to table 6-3 Environmental and Social Codes of Practices is based on ESMP

Impacts/Risks	Mitigation Measure	Responsibility	
		Implementation	Supervisor/approval
	• Provide garbage receptacles at the construction site and camps, which will be periodically cleared to prevent the outbreak of diseases and maintain hygiene; and • Collect and treat camp wastewater before discharge into the environment. There is no existing wastewater treatment in this area, but it is proposed to make the septic tank system at worker camp to collect, treat camp wastewater before discharge. **Occupational Safety** • Provision of first-aid facilities readily accessible by workers. • Contractors should include an emergency management plan in case of an accident, and safety drills. Workers must be made aware of the emergency management plan. • Provisions of personal protection equipment (PPE), such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection, in accordance with relevant health and safety regulations for workers. All workers must be trained in the use of the required equipment. • Wearing PPEs while working on-site will be a mandatory requirement for workers. • Posting of safety signs/reminders in strategic areas within the construction area. • Installation of sufficient lighting at night. • Contractors should provide training to the workers for awareness and measures to prevent sexually transmitted diseases (STD). **Food Safety** • Provide a clean and sufficient supply of fresh water. • Inspect and supervise food hygiene in canteens on site regularly. Canteen workers must have valid health permits. • If food poisoning is discovered, implement effective control measures immediately to prevent it from spreading. **Disease prevention and safety awareness** • Construction workers must have a physical examination before starting work on site. If an infectious disease is found, the patient must be isolated for treatment to prevent the disease from spreading. • Provide induction and training by local health departments on the prevention and management of communicable diseases. • Implement STIs/HIV/AIDS and other communicable diseases awareness and prevention programs. • Provide training on the specific hazards associated with the work, as well as training on basic sanitation and health care issues, and general health and safety.		

Impacts/Risks	Mitigation Measure	Responsibility	
		Implementation	**Supervisor/approval**
	Security: • Regular attendance and a controlled time keeping of all employees; • Restriction of un-authorized persons to the residential and work areas; • Restriction of carrying weapons and control hunting by employees; and • Provision of boundary walls/fence with proper exits to the camp		
10. Community Health and Safety	• Install barricades/barriers and sturdy plate covers in open excavations during non-working time. • The contractor must install the physical barrier to limit access to the construction site. • Install signs at construction sites warning people of potential dangers. • Erect construction billboards, which include construction contents, schedule, responsible person and complaint phone number, at the entry to each construction site and construction staging area. • Construction works with noise and dust will be prohibited during the nighttime. • Liaise with PIU to inform the community about the upcoming construction work and important precautions to protect the community. • Coordinate with Village Authority Committee and share the work plans and number of workers who will stay in the camp.	Contractor	Social Safeguard and Environment Specialists; PMU and PIU
11. Disposal of Sludge generated from sludge lagoon	• The selected contractor shall work with the PMU/PIA and relevant local authorities to identify disposal sites for the sludges and get approval/agreement with landowner before dumping. • The disposal site should be empty and lower land that needs to fill up and it shall be located far enough from water sources, residential areas and sensitive areas. • Do not located in forest areas, cultivation areas and other sensitive areas. • Do not allow reuse of sludge for filling food crop land. • Do not dump the sludge in the natural water sources/natural drainage courses. • Do not located within the • Install barrier and safety waring sings around the disposal area. • Land levelling shall be completed before handover to landowner.	PNP staff	DPWT

APPENDIX 5 CODE OF CONDUCT

WORKERS CODES OF CONDUCTS

Each employee shall be informed of the Code of Conduct and bound by it while in the employment of the Client or its Contractors. The Code of Conduct shall be available to local communities at the project information centers or other places easily accessible to the communities.

The Contractor is responsible for providing appropriate training to all staff according to their level of responsibility for environmental, health and safety matters.

The Code of Conduct shall address the following measures (but not limited to them):

- All of the workforces shall abide by the laws and regulations of the Lao PDR;
- Illegal substances, weapons and firearms shall be prohibited;
- Pornographic material and gambling shall be prohibited;
- Fighting (physical or verbal) shall be prohibited;
- Creating nuisances and disturbances in or near communities shall be prohibited;
- Disrespecting local customs and traditions shall be prohibited;
- Smoking shall only be allowed in designated areas;
- Maintenance of appropriate standards of dress and personal hygiene;
- Maintenance of appropriate standards hygiene in their accommodation quarters;
- Residing camp workforce visiting the local communities shall behave in a manner consistent with the Code of Conduct; and
- Failure to comply with the Code of Conduct, or the rules, regulations, and procedures implemented at the construction camp will result in disciplinary actions.

Security. Some security measures shall be put into place to ensure the safe and secure running of the camp and its residents. Some of these security measures include:

- The list of workers must be registered to local authorities in accordance with existing regulations of Lao PDR;
- Children under 14 years of age will not be hired under the Project;
- Adequate, day-time night-time lighting shall be provided;
- Control of camp access. Access to the camp shall be limited to the residing workforce, construction camp employees, and those visiting personnel on business purposes;
- Prior approval from the construction camp manager for visitor's access to the construction camp;
- A perimeter security fence at least 2m in height constructed from appropriate materials;
- Provision and installation in all buildings of firefighting equipment and portable fires extinguishers.

Any construction worker, office staff, Contractor's employees or any other person related to the project found violating theses prohibitions will be subject to disciplinary actions that can range from a simple reprimand to termination of his/her employment depending on the seriousness of the violation.

Prohibitions:

The following activities are prohibited on or near the subproject sites:

- Cutting of trees for any reason outside the approved construction area;
- Hunting, fishing, wildlife capture, or plant collection.
- Buying of wild animals for food;
- Having caged wild animals (especially birds) in camps;
- Poaching of nay description;
- Explosive and chemical fishing;
- Disturbance to any ting with architectural or historical values;
- Building of fires;
- Use of unapproved toxic materials, including lead-based paints, asbestos, etc.; Use of firearms (except authorized security guards);
- Use of alcohol by workers in office hours;
- Driving in an unsafe manner in local roads;
- Washing cars or machinery in streams or creeks;
- Maintenance (change of oils and filters) of cars and equipment outside authorized areas;
- Creating nuisances and disturbances in or near communities;
- Disposing garbage in unauthorized places;
- Indiscriminate disposal of rubbish or construction wastes; Littering the site;
- Spillage of potential pollutants, such as petroleum products;
- Collection of firewood;
- Urinating or defecating outside the designated facilities; and
- Burning of waste and/or cleared vegetation.

MANAGEMENT REQUIREMENTS OF CONSTRUCTION SITES AND WORKERS CAMPS

The contractor will be responsible to comply with, but not limited to the following:

- Temporary workers' camps will be required to accommodate 5-6 engineers and skilled workers at each site.
- Camp will be installed at the site of allocated land for the WTP.
- After the construction is completed, the temporary camp will be unfabricated and the sites will be cleaned.
- The contractor shall install the Worker Camp in an area far enough from water points, houses and sensitive areas in consultation with the community. Good quality sanitary equipment should be installed in the Worker Camp.
- The contractor shall manage all activities in compliance with laws, rules and other permits related to site construction regulations and will protect public properties. Degradation and demolition of private properties will be avoided. Paying compensation to damage to the public facilities and/or private property will be required.
- The contractor is responsible for the protection of the local environment against dust, air, noise, vibration, exhaust fuels and oils and other solid residues generated from the work site. The contractor shall manage waste properly and do not burn it on site and will also provide proper storage for construction materials, organize parking and displacement of the machines in the site. Used oil and construction waste materials mu be appropriately disposed and adequate waste disposal and sanitation services will be provided at the construction site next to the generated area. In order to protect soil, surface and ground water the Contractor must avoid any wastewater discharge, oil spill and discharge of any type of pollutants on soils, in surface or ground water, in sewers and drainage ditches.
- The contractor shall be responsible for maintaining good hygiene, safety, and security of the work sites, including protection of health and safety of staff and workers. The contractor will prevent

standing water in open construction pits to avoid potential contamination of the water table and the development of a habitat for disease-carrying vectors and insects.
- The contractor shall be prohibited from quarrying material directly from the river.
- The contractors shall procure construction materials from government-permitted sources/suppliers only.
- During construction, the contractor must be taking serious action to control dust by using water or through other means and the construction site will be cleaned on a daily basis.
- The Contractor will work with local authority and management local traffic effectively and ensure traffic access of road safety of local residents and road users during the works. Speed limits at work sites and community areas will be applied to all vehicles and cars. All vehicles and their drivers must be identified and registered and the drivers are properly trained.
- Install barriers and safety warning signs on road sections and if necessary, deploy traffic aids/flag persons at affected locations. Information boards at blocked roads will provide information about the temporary closure of roads, schedule of works and the traffic-rerouting plan.
- The contractor should install signaling of work, ensure no blockage of access to households during construction and/or provide alternative access.
- The contractor must immediately rehabilitate the excavated areas and any damaged road and path sections.

House Keeping

The Contractor will follow a 'good housekeeping' policy at all times. This will include, but not necessarily be limited to the following:

- Ensure considerate site behavior of the Contractor's staff;
- Open fires will be prohibited at all times;
- Ensure that appropriate provisions for dust control and road cleanliness are implemented;
- All site areas will be kept in clean and tidy condition, rubbish and food waste will be removed frequently;
- Wheel washing facilities will be brushed or sprayed clean frequently;
- Storage sites, fixed plant and machinery, equipment and temporary buildings will be located to limit adverse environmental effects
- Frequently inspect, repair and re-paint as necessary all site hoardings to comply with the local conditions and local regulations, all flying post/board is to be removed as soon as reasonably practicable and within 24 hours of notice;
- Adequate toilet facilities will be provided for all site staff;

Working Hours

Core working hours will be from 08:00 to 16:00 on weekdays and 0800 to 1300 on weekends. Individual site requirements which differ from the above will be considered on a site-by-site basis. Noisy operations shall not take place outside these hours without prior approval from delegated agencies and local authorities.

In the case of work required in response to tan emergency (or which if not completed would be damaging and unsafe), the relevant local authority will be advised as soon as is reasonably practicable of the reasons for and likely duration of such works.

Workers Camps

Workers 'Camp and Site Installation Requirement. Potential sites of workers' camps must be discussed with and proposed by local communities and authorities during consultations and prior to their establishment. If additional camps and ancillary construction sites are selected, for following criteria must be used:

- minimize the land occupation;
- Site offices shall be located at least 200 meters from any existing residential settlements
- Camp facilities should not be located in steep slopes;
- Site offices and camps be located at least 100 meters from any watercourses and be operated so that no pollutants enter watercourses. Camp areas shall be located to allow effective natural drainage;
- The workforce shall be provided with safe, suitable and comfortable accommodation. They have to be maintained in clean and sanitary conditions;
- In every site adequate and suitable facilities for washing clothes and utensils shall be provided and maintained for the use of contract labor employed therein;
- Potable water for human consumption shall be provided at camps, site offices.
- Adequate sanitation facilities (toilets and washing areas) shall be provided for workers to use. Toilets should be provided with adequate supplies of running water, soap, and toilet paper. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic conditions;
- At every construction camp, there must be at least one septic tank. The wastewater from the tank shall not be discharged into any watercourses. The wastewater shall be periodically transported away by a water tank to the nearest treatment plant;
- *Medical Facilities.* A medical and first aid kit shall be provided at each camp area. All consumables in the first aid kit should be checked and recharged regularly.

APPENDIX 6 SLOPE EROSION PROTECTION

Scaling-Up Water Supply, Sanitation and Hygiene (WSSH) Project (Project ID No: P164901; IDA Credit No. 6375-LA)

Propose the Slop erosion protection methods by using the Geotextiles and Mats

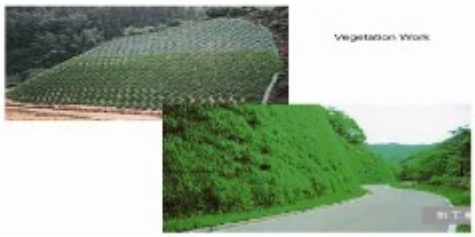
Project Owner:		**PMU: Department of Water Supply**
Funded By:	THE WORLD BANK	**The World Bank**
Consultant:	PiSECCON	**PiSECCON (Lao) Co., Ltd JV SLS**

AGENDA

1. **Descriptions**
2. **Applications**
3. **Installations and implementation requirements**
4. **Considerations**
5. **Inspections**
6. **Maintenance**
7. **Typical drawings for geotextiles and mats construction methods.**
8. **Recommendation for some manufacturer of the turf reinforced mats**

1. Descriptions:

Natural or synthetic mats are roll-type materials used for temporary or permanent soil stabilization and protection from rain, wind erosion.



2. Applications

- Stabilize drainage ditches, channels, and stream banks.
- Stabilize steep slopes with high protection by erosion.
- Stabilize slopes until vegetation is established.
- Hold water near surface to assist in vegetable growths.
- Protect stockpiles from the erosion.
- Provide temporary cover for bare areas that idle.

3. Installations and implementation requirements

- Apply matting to disturbed soils and areas where vegetation have been removed.
- Installation matting immediately after the areas is seeded and fertilize.
- Minimize disturb of the slop greater than 15% in grade.
- Phase disturbances and use stabilization techniques designed for steep grades if disturbance the steep slope is unavoidable.
- Grade and shape disturbed slopes to installing geotextiles and/or erosion control mattings.
- Prepare area by remove rocks, vegetation and other obstructions that will inhabit contact with soil.

3. Installations and implementation requirements (continued)

- Entrench or anchor material at top and bottom of the slope in a 6-inchs x 6-inchs trench or per manufacturer's specifications, whichever is more stringent. The trench should be place on minimum 12 inches from the top of slope.
- Intermittence check slots can also be installed for large or long length of the mattes areas to increase stabilize of the area.
- Do not stretch mattings. Maximize mat contact with soil by loosely laying blankets and securing to slope with stakes.
- Ensure matting maintain direct contact with soil to prevent rills, gullies, and undermining.
- Follow manufacturer's specification on overlapping and stake spacing requirements. Steep slopes may require additional staking requirements.
- If geotextile matting is to be installed on steep slopes greater than 15% space stake every 2 feet.
- Organic matting provide temporary protection until permanence vegetation has been established or construction activities recommence. Organic matting material include the following:

- Jute matting
- Straw matting

3. Installations and implementation requirements (continued)

- Synthetic matting provides temporally or post construction stabilization in both vegetated and non-vegetated areas. Synthetic matting materials include the following:

- Excelsior "matting"
- Glass fiber matting
- Stakes
- Mulch netting
- Plastic sheeting/covering

3. Installations and implementation requirements (continued)

- Key in temporary plastic sheeting at top of slope and weight down by gravel bags no more than 6 feet apart.
- Install erosion control measure or devices at top of the slope to filter sediment-laden runoff and decrease storm water velocity.
- Other proprietary devices may be used per manufacturer's recommendation.
- The contractor shall immediately initiate soil stabilization measure earth disturbing construction activities on exposes areas have been completed or will be temporary inactive for 14 or more calendar days.

4. considerations

- Minimize use of matting to areas where other erosion control measure are not applicable such as channel or steep slopes since matting is costly compare to erosion control measure.
- Seed germination maybe delayed due to decrease soil temperature.
- Extensive soil preparation is needed before installation for adequate contact with slope.
- Mats made of natural material have a limited life and low shear strength.
- High material cost and extensive manpower needed.
- Generally, the slope needs to be smooth and free of large rocks.
- Plastic sheeting results in 100% runoff and is easily torn/damaged.

5. Inspection

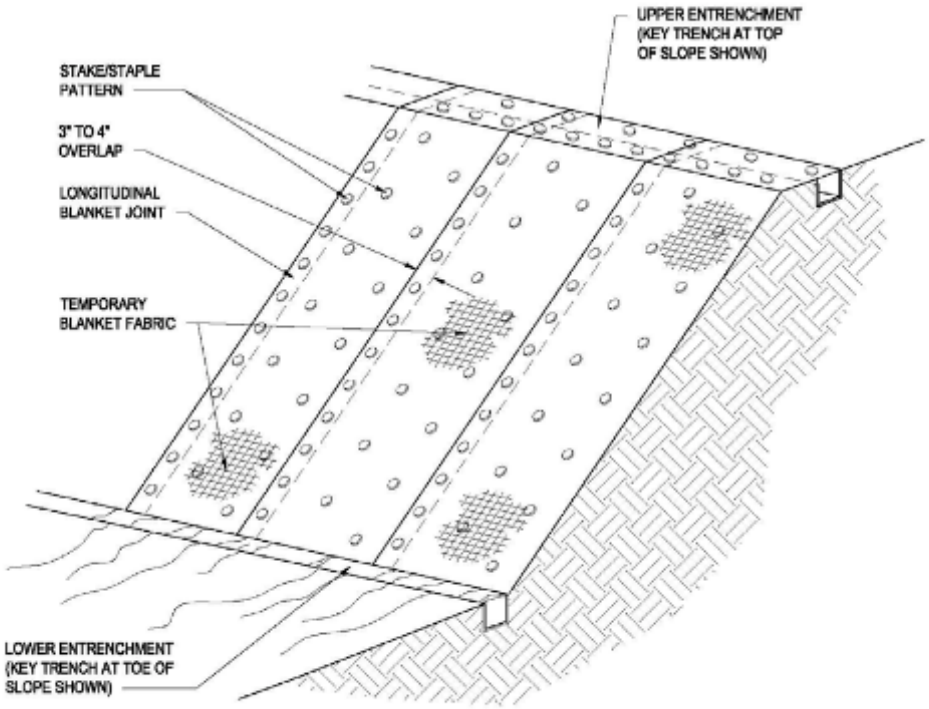
What to Inspect

- Is there evidence of undercutting at the top of slope?
- Is the slope eroding beneath the blanket?
- Are blankets firmly anchored and trenched in at top and bottom of slope?
- Are blanket segments properly overlapped?
- Are stakes properly spaced and driven into the soil to prevent the blanket from lifting away from soil?
- Is matting free from any defects or tears?
- Are there areas not adequately growing vegetation?

6. Maintenance

- Repair undermining or erosion.
- Repair/replace damaged blankets.
- Replace stakes and sandbags as needed.
- Reseeded and fertilizer areas not adequately growth.

7. Typical drawings of geotextiles and mats construction methods.

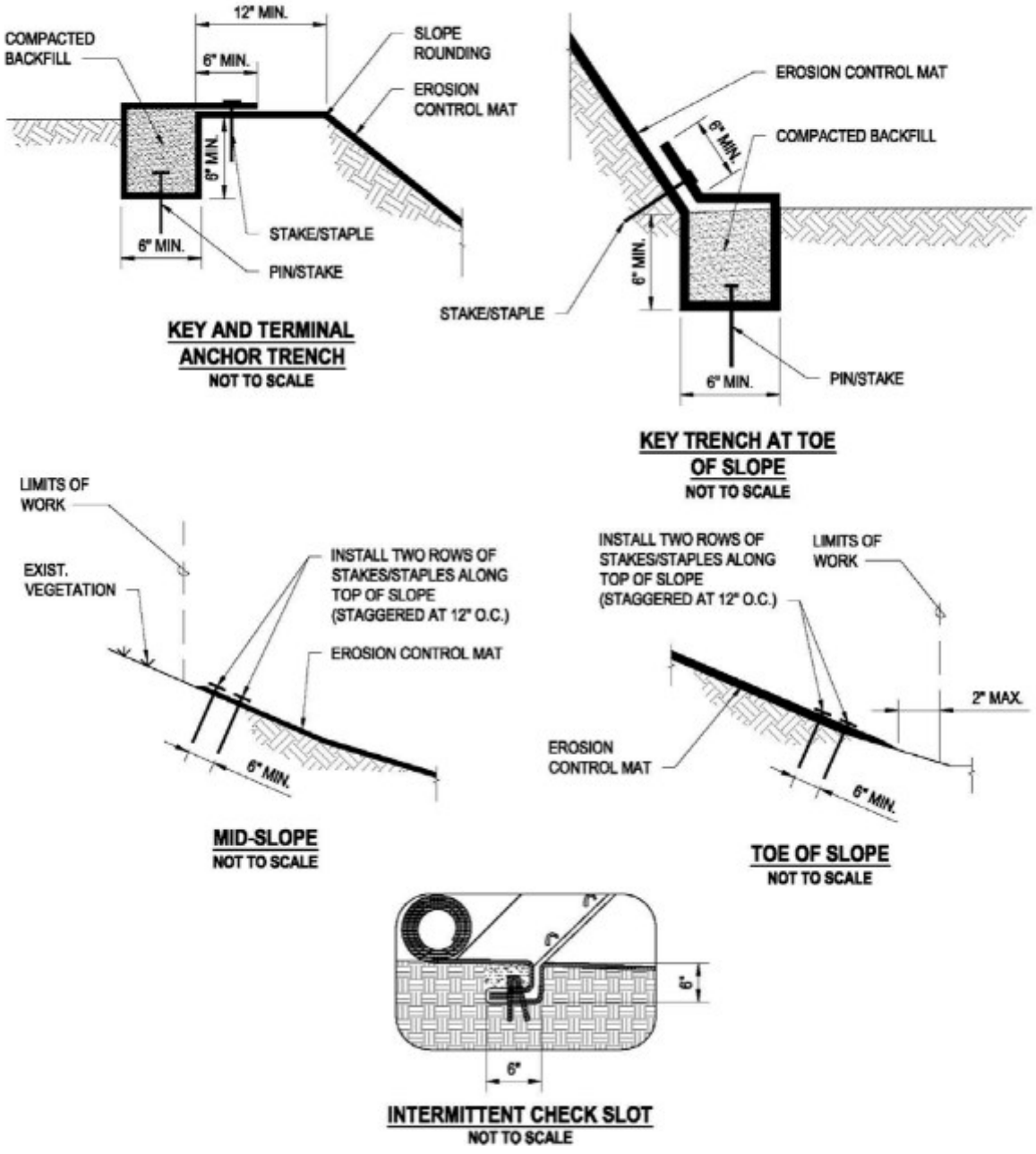


TEMPORARY EROSION CONTROL BLANKET ON SLOPE
NOT TO SCALE

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS. SOIL CONTACT SHALL BE MAXIMIZED.

2. LAY BLANKETS LOOSELY AND STAKE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

3. INSTALLATION MAY VARY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. APPLY THE MORE STRINGENT REQUIREMENT.



GEOTEXTILES AND MATS INSTALLATION DETAIL FOR SLOPES

APPENDIX 7 ESHS MONTHLY MONITORING REPORT TEMPLATE

Scaling-Up Water Supply, Sanitation, and Hygiene Project

IDA Project No.: SWSSHP (P-164901)

Constract Package: C1/W/23

ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY (ESHS)

MONTHLY MONITORING REPORT

Prepared by: Shanghai Construction Group Co.,Ltd

for

Project Management Unit

[Month Year]

Contents

List of Table

List of Figures

1. General Information

Package ID	
Contract Signing Date	
Contract End Date	
Reporting Period	
Last Report Date	
Report Submit Date:	
Prepared by	Name: Mr. Tang Zixin, Environmental, Social, Health and Safety Officer Contract Number: 020 29987691 Email:
Reviewed by	Name: ……Construction Supervision (CS) Contract Number: Email:
Approved by	Name: ……..,Project Management Unit Contract Number: Email:

2. Progress of Civil Works Contracts

2.1 Key summary of contraction activities for WSS in Mai and Khoua District.

Overall progress of work (%physical competition)

(1) Water Intake…

(2) Raw water pipe: completed pine installation of 500m from….to….

(3) Access Road to Water Treatment Plant (WTP)

(4) Access Road to Water Treatment Plant (WTP)

(5) Main Clear Water Pipe….

(6) Distribution pipe….

3. Staffing

During this reporting period, a total of 56 employees, including 3 females, were working at the construction sites. The detailed labor force distribution is summarized in

Table 3-1 below.

TABLE 3-1 LABOR FORCE DISTRIBUTION

WSS Custer	Position	Nos. of Workers	
		Total	Female

4. Emergency Respond Team

The list of contact person for emergency respond team is summarized in the following Table 7-1

TABLE 4-1 LIST OF ERT CONTACT PERSON

No.	Name	Position	Phone Number

5. Capacity Building and Training

5.1 Training

TABLE 5-1 SUMMARY OF TRAINING ACTIVITIES

Date	*Contents/Topics covered*	*Delivered by*	*Number of Participants (total/female)*

5.2 Safety Briefings

TABLE 5-2 SAFETY BRIEFING ACTIVITIES DURING THIS MONTH

Date/ Time	Topics	Location	Number of participants (Total/Female)

6. Key Mitigation Measures Implemented during the Reporting Month

TABLE 6-1 MONTHLY SUMMARY OF KEY ENVIRONMENTAL AND SOCIAL IMPACTS AND IMPLEMENTATION OF MITIGATION MEASURES FOR WATER SUPPLY SYSTEMS IN SINXAY CUSTER OF KHOUA DISTRICT

Key Impacts	Location	Description of Impacts occurred during May 2025	Mitigation measures	Progress of Mitigation Measures	Due date
Landslide					
Water contamination					
Biological Impact/ Tree Cutting					
Air Pollution/ Dust Generation					
Noise and Vibration					
Solid waste and Hazardous waste generation					
Disruption to traffic and pedestrians' access to properties					
Impact and Risks on Private and community assets					
Risks on Relics and artifacts exposure Chance Find					

Health and Safety					
Occupational Health and safe					
Site sanitation					
Food Safety					
Disease prevention and safety awareness					
Security					
Management requirements of construction sites and workers camps					
Community Health and Safety					

TABLE 6-2 MONTHLY SUMMARY OF KEY ENVIRONMENTAL AND SOCIAL IMPACTS AND IMPLEMENTATION OF MITIGATION MEASURES FOR WATER SUPPLY SYSTEMS IN SOPHUN CUSTER OF MAI DISTRICT

Key Impacts	Location	Description of Impacts occurred during May 2025	Mitigation measures	Progress of Mitigation Measures	Due date
Landslide					
Water contamination					

Biological Impact/ Tree Cutting					
Air Pollution/ Dust Generation					
Noise and Vibration					
Solid waste and Hazardous waste generation					
Disruption to traffic and pedestrians' access to properties					
Impact and Risks on Private and community assets					
Risks on Relics and artifacts exposure Chance Find					
Health and Safety					
Occupational Health and safe					
Site sanitation					
Food Safety					

Disease prevention and safety awareness					
Security					
Management requirements of construction sites and workers camps					
Community Health and Safety					

TABLE 6-3 HSE INCIDENTS {IF NONE WRITE ''NONE''}

Date/time	Incidents	Status of corrective actions	Remark
On May 2025	NONE	NONE	

7. Grievance Redress

TABLE 7-1 SUMMARY OF WORKFORCE COMPLAINTS

Case ID and Date	Name of Grievant	Description of Issue/Compliant	Outcome of Investigation	Current Status	Date of Resolution

TABLE 7-2 SUMMARY OF PROJECT AFFECTED PERSON COMPLAINTS

Case ID and Date	Name of Grievant	Description of Issue/Compliant	Outcome of Investigation	Current Status	Date of Resolution

Annex 1: Construction Site Photos

[add the photos of the construction site at all typical locations of each package with comments on the measures that have been implemented well and measures to be overcome. These photos must be returned to .jpeg and limited in capacity]

Annex 2: Incident Reports: must be prepared as soon as possible after an incident has happened and attach to the monthly reports. Provide details about

- Affirming any violation to current legislation or international treaties.
- Any fatal accident or serious accident.
- Serious impacts or damage to personal property such as traffic accidents, damage to people's houses, roads and other incidents.
- Seriously polluting surface or groundwater.
- Any allegations related to sexual harassment or sexual misconduct, child abuse, child labor, or other violations involving children.

APPENDIX 8 PERSONAL ORGANIZATION'S WORK PERMISSION

1: Mr. Zhang Liang's Work Permission

2: Mr.Wu Xiaochang’s Work Permission

3: Mr.Meng Yu's Work Permission

ID202500034875

ชื่อ/First Name: YU
นามสะกุล/Family Name: MENG
ເພດ/Sex: ชาย
ວັນ, ເດືອນ, ປີເກີດ/Date of birth: 16/01/1996
ສັນຊາດ/Nationality: Chinese
ໜັງສືຜ່ານແດນ/Passport: ED8857792

ຊື່ຫ້ວໜ່ວຍສະຖານ: ຫ້ອງການບໍລິສັດ Shanghai Construction Overseas (Hongkong) Limited
ສະຖານທີ່ເຮັດວຽກ/Work Place: ນະຄອນຫຼວງວຽງຈັນ
ວຽກທີ່ອະນຸຍາດໃຫ້ເຮັດ/Valid for occupation: ຜູ້ປະກອບອາຊີບດ້ານການບໍລິຫານ
ເງິນເດືອນ/Salary: 20,000,000 ກີບ
ອອກໃຫ້ຕັ້ງ ຄວງ ວັນທີ/Date of issue: 13/06/2025 - 13/06/2026

ກົມຄຸ້ມຄອງຄົນເຂົ້າ

ພົນສະຫວັນ ໄຊຸໂຣດ

ชื่อ:
Name: MR. YU
นามสะกุล:
Family Name: MENG
วันเดือนปีเกิด:
Date of Birth: 16-May-1996
สัญชาติ:
Nationality: CHINESE
เชื้อชาติ:
Race: CHN
หนังสือผ่านแดนเลขที่:
Passport No: ED8857792
มีวันที่:
Date of issue: 19-Jul-2018
ตำแหน่ง:
Position: ชัยการ

2

บ่อนเຮັດວຽກຢູ່ລາວ
Working Place in LAOS
ຫ້ອງການບໍລິສັດ shanghai construktion overseas (HongKong) limited
ບ່ອນປະຈຳ : ນະຄອນຫລວງວຽງຈັນ (Re)

ບັດນີ້ມີກຳນົດໃຊ້ເຖິງວັນທີ. 21-May-2026
This card is valid until
ນະຄອນຫຼວງວຽງຈັນ, ວັນທີ. 22-May-2025
Vientiane Capital, Date:

ກົມຕ້ານຄວບຄຸ້ມຄົນເຂົ້າເມືອງ ແລະ ຕ່າງດ້າວ
Department of Foreigners Control

Phounsavath VORARATH

3

4: Mr.Huang Xiuyan’s Work Permission

ID202400055787

ชื่อ/First Name: XIUYAN
นามสกุล/Family Name: HUANG
เพศ/Sex: ชาย
วัน, เดือน, ปีเกิด/Date of birth: 04/05/1971
สัญชาติ/Nationality: Chinese
หนังสือเดินทาง/Passport: EJ5195112

ชื่อนิติบุคคลนายจ้าง: ห้างหุ้นส่วนบริษัท Shanghai Construction Overseas (Hongkong) Limited
สถานที่ทำงาน/Work Place: นครหลวงเวียงจันทน์
วิชาชีพที่ได้รับอนุญาต/Valid for occupation: ผู้ประกอบอาชีพก่อสร้างทั่วไป
เงินเดือน/Salary: 10,000,000 กีบ
ออกให้ตั้งแต่ วันที่/Date of issue: 26/11/2024 - 26/11/2025

ชื่อ
Name: MR. XIUYAN
นามสกุล
Family Name: HUANG
วันเดือนปีเกิด
Date of Birth: 04-May-1971
สัญชาติ
Nationality: CHINESE
เชื้อชาติ
Race: CHN
หนังสือเดินทางเลขที่
Passport No: EJ5195112
ออกวันที่
Date of issue: 17-Nov-2021
ตำแหน่ง
Position: วิชาการ

2

ບ່ອນເຮັດວຽກຢູ່ລາວ
Working Place in LAOS
ຫ້າງຫຸ້ນສ່ວນບໍລິສັດ Shanghai Construction Overseas (Hongkong) Limited
(Representative Of Shanghai Construction Overseas (Hongkong) Limited
ບ່ອນປະຈຳ : ນະຄອນຫລວງວຽງຈັນ (R2)
ບັດນີ້ມີສຳນົດໃຊ້ເຖິງວັນທີ 10-Nov-2025
This card is valid until
ນະຄອນຫຼວງວຽງຈັນ, ວັນທີ 11-Nov-2024
Vientiane Capital, Date
ກົມຄຸ້ມຄອງຄົນເຂົ້າເມືອງ ແລະ ຄຸ້ມຄອງຄົນຕ່າງປະເທດ
Department of Foreigners Control

Phounsavath VORARATH

3

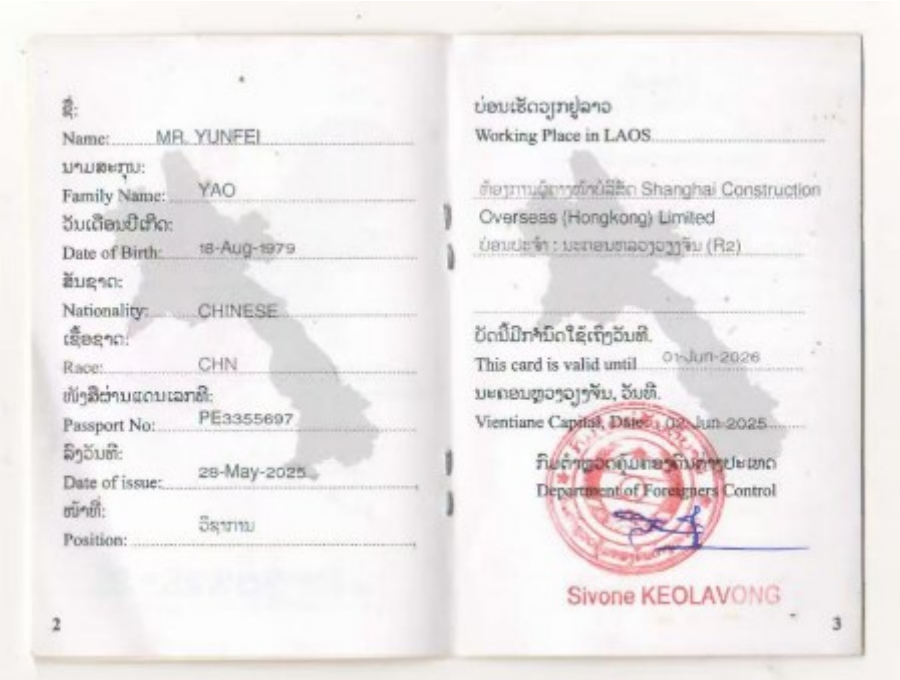
5: Mr.Yao Yunfei's Work Permission

ID202500003341

ຊື່/First Name: YUNFEI
ນາມສະກຸນ/Family Name: YAO
ເພດ/Sex: ຊາຍ
ວັນ, ເດືອນ, ປີເກີດ/Date of birth: 18/08/1979
ສັນຊາດ/Nationality: Chinese
ໜັງສືຜ່ານແດນ/Passport: PE3355697

ຊື່ຫົວໜ່ວຍແຮງງານ: ຫ້ອງການຜູ້ຕາງໜ້າບໍລິສັດ Shanghai Construction Overseas (Hongkong) Limted
ສະຖານທີ່ເຮັດວຽກ/Work Place: ນະຄອນຫຼວງວຽງຈັນ
ວຽກທີ່ອະນຸຍາດໃຫ້ເຮັດ/Valid for occupation: ນັກການຕະຫຼາດ
ເງິນເດືອນ/Salary: 10,000,000 ກີບ
ອອກໃຫ້ທີ່ ຄຣງ ວັນທີ/Date of issue: 03/06/2025 - 03/06/2026

ກົມຄຸ້ມຄອງແຮງງານ



ຊື່:
Name: MR. YUNFEI
ນາມສະກຸນ:
Family Name: YAO
ວັນເດືອນປີເກີດ:
Date of Birth: 18-Aug-1979
ສັນຊາດ:
Nationality: CHINESE
ເຊື້ອຊາດ:
Race: CHN
ໜັງສືຜ່ານແດນເລກທີ:
Passport No: PE3355697
ລົງວັນທີ:
Date of issue: 28-May-2025
ໜ້າທີ່:
Position: ວິຊາການ

2

ບ່ອນເຮັດວຽກຢູ່ລາວ
Working Place in LAOS
ຫ້ອງການຜູ້ຕາງໜ້າບໍລິສັດ Shanghai Construction Oversess (Hongkong) Limited
ບ່ອນປະຈຳ : ນະຄອນຫລວງວຽງຈັນ (R2)

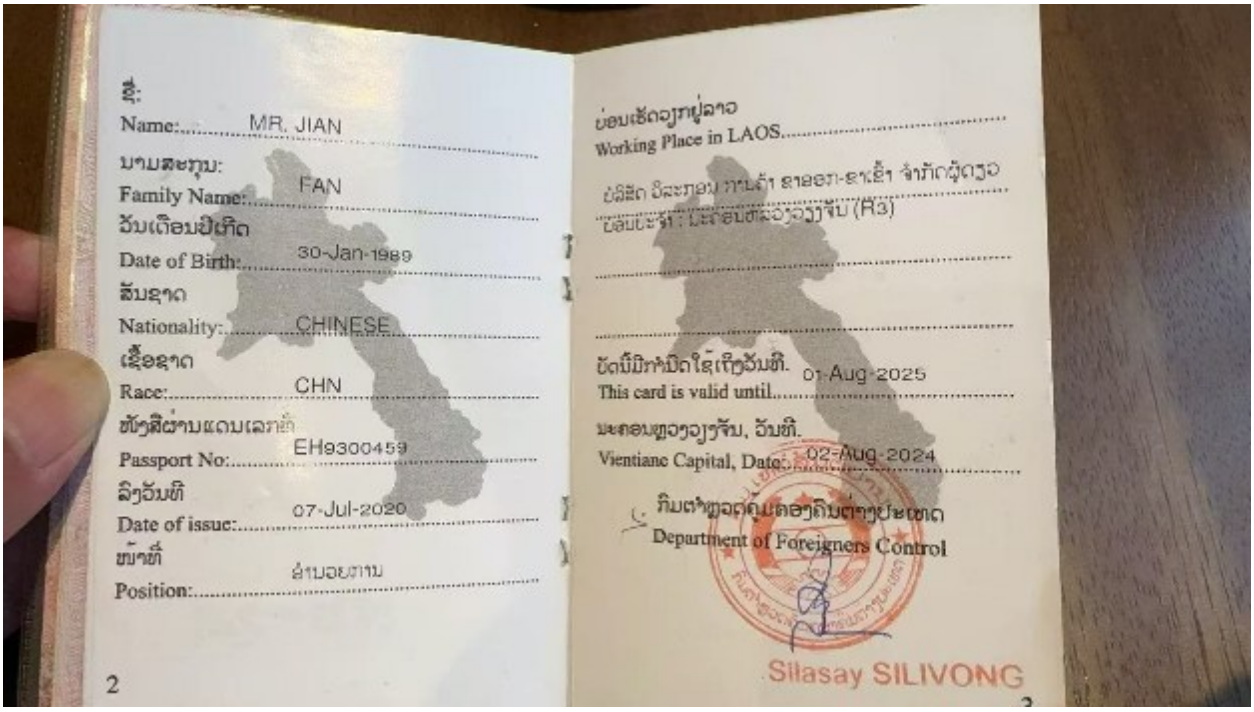
ບັດນີ້ມີກຳນົດໃຊ້ເຖິງວັນທີ.
This card is valid until 01-Jun-2026
ນະຄອນຫຼວງວຽງຈັນ, ວັນທີ.
Vientiane Capital, Date 03-Jun-2025
ກົມຄຸ້ມຄອງຄົນເຂົ້າເມືອງ ແລະ ການຊຸມນຸມ
Department of Foreigners Control

Sivone KEOLAVONG

3

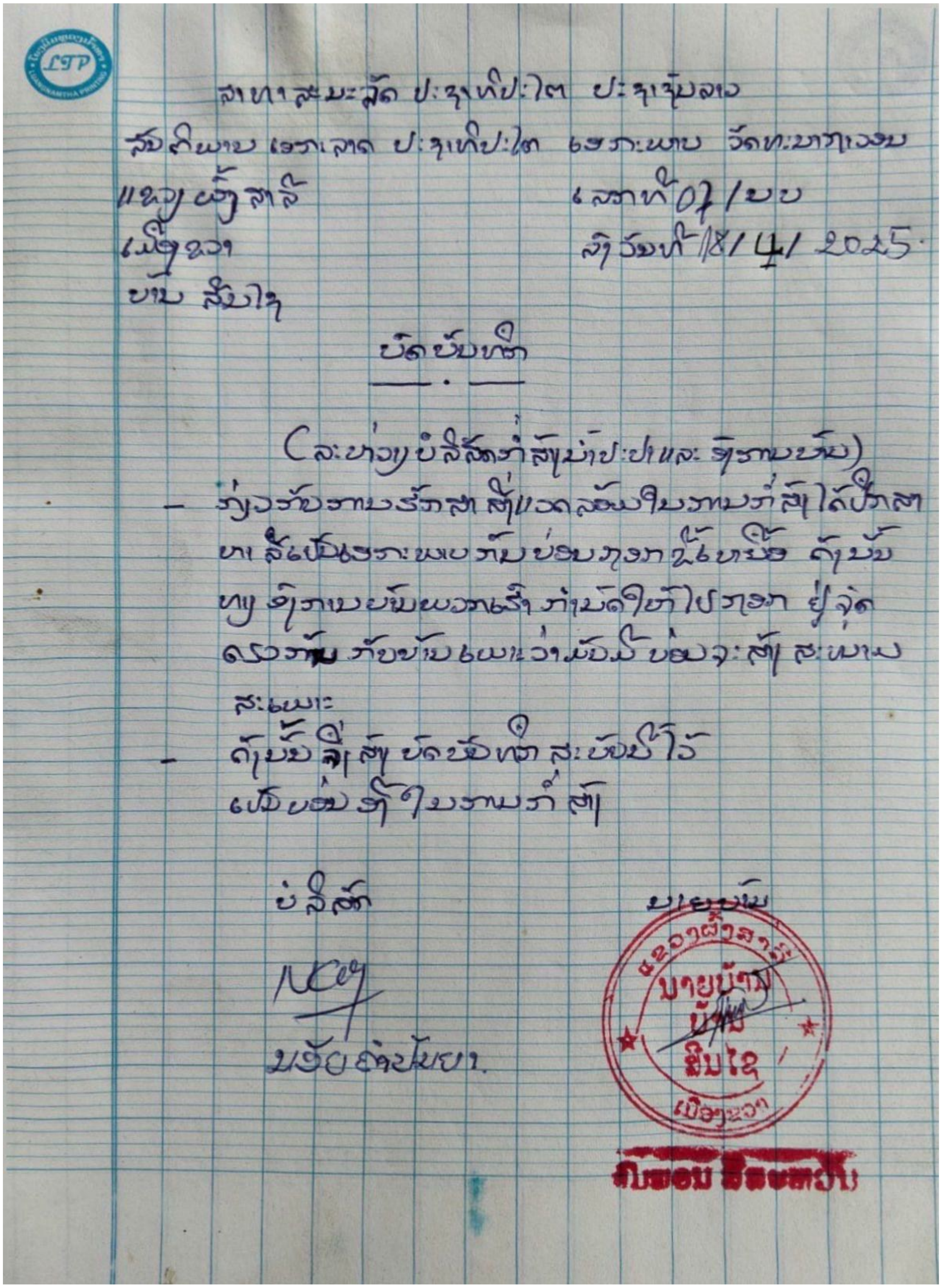
6: Mr.Tang's Work Permission

7: Mr.Fang's Work Permission



APPENDIX 9 MINUTE MEETING FOR ALLOWING DISPOSAL WASTES IN THE VILLAGE' LANDFILL.

1. Sinxay village



1. Sophoun village