Site- Specific Environmental Social Monitoring & Management Plan for T12 Road
for
Nam Ngiep 1 Hydroelectric Project

Document No. : NNP1-PLN-SSESMMPT12-A3

OBAYASHI Corporation
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1. Project Description

The Nam Ngiep1 Hydropower Project (Project) is a construction of hydropower dam and other main elements developed by the Nam Ngiep 1 Power Company Limited (NNP1PC). The Project is situated on the Nam Ngiep River which is on a left bank tributary of Mekhong River. Under the management of the NNP1PC, the Project plans to construct a 148-meter high concrete gravity dam on the Nam Ngiep River, serving as a main power station of 272 MW and annual power generation of 1,546 GWh at substation. Once in operation, the main dam will utilize 66.9 km² of reservoir area, covering parts of Xiang Khouang and Vientiane Provinces. An effective storage of 1,192 million m³ from the reservoir is designed to drop around 130 m to a power station downstream from the main dam.

The Project will be funded predominantly by private sector. The owners of Nam Ngiep Power Co., Ltd., include The Kansai Electric Power Co., Inc.(Kansai Electric) from Japan, EGAT International Co., Ltd. (EGATi) from Thailand, and Lao Holding State Enterprise (LHSE) from the Lao PDR.

Serving as one of the key project components, the access road improvement and repair activities are fundamental in terms of providing convenient transportation routes for transporting project materials as well as to benefit local villagers’ commute. The access road improvement consists of:

1. Upgrading road conditions from Ban Nonsomboun to Ban Hat Gniun of 21.2km.
2. Rehabilitation of JICA road (from Ban Hat Gniun to Dam site) covering length of 9.32 km.
3. Permanent road (new construction) covering length of 11.16 km.
4. Temporary road (new construction) from Ban Hat Gniun to Dam site covering length of 16.81 km.

1.1 The Access Roads of T12 Road (See attachment-1)

1) Brief overview of the dam access roads (lengths, widths, location and existing conditions)

- New road conditions; Length 720m, Width 3.5m,
- Location; From T12 Road(point T2) to Permanent Road P1 (point S) at the left bank of Nam Ngiep River
- This road is used as temporary road until the completion of Permanent road P1. Operation period is from the middle of January 2014 to the middle of April 2014.

2) Improvements and works to be done (e.g., new bridge, reinforced concrete box and pipe culvert or pipe culvert improvements, side drainage/ditch, new asphaltic concrete pavement sections, etc.).

- Field survey,
  Clearing & Grubbing : 5,000m² (disposal volume about 750m³)
  Roadway excavation : 6,000m³
  Sub-base course : 350m³
  Open ditch : 720m
  Under drain pipe : 1 location(PVC φ 300) Design flood of 0.022m³/s (1.5retrun period) considering catchment area of 0.091km²
a) Clean & Grubbing

- Cut grass and remove topsoil.
- Cut and remove tree.

- The material to be cleared shall include trees, stumps, logs, bush, undergrowth, grass, crops and loose vegetable matter.
- These materials shall be stored in the vicinity of the site (="specified are" See attachment-1).
- After the completion of site inspection at the disposal area No.2, those materials will be transported and filled in.

b) Roadway excavation, embankment, open ditch, sub-base course

- Basically, the surface vegetation including stumps and roots shall be removed before stripping topsoil. Any suitable topsoil which is free from roots and vegetable matter shall be stockpile in the specified area and used for planting and/or embankment.
- The embankment material which excavated from subgrade preparation work and slope excavation shall be complied with specification.
- Basically the embankment slope shall be protected by sod grasses to avoid erosion of slope surface. The suitable grass shall be selected and approved by the Owner.
- The placing of stone might be set at outlet of drainage pipe with PVC φ 300 to prevent from erosion.
- The ditch without lining will be observed during construction period, if drainage surface seriously damaged by unexpected flood discharge, the ditch surface may be covered by lining.
After the completion of this road, maintenance work shall be carried out within the carriage way and not disturbed surrounding nature. Any materials required for maintenance works such as soil and aggregate shall be bring from outside of construction area.

3) Specific road safety improvements (e.g., improved signage and pavement markings) and wildlife corridor, if planned
   
   • Traffic sign board (No Unauthorized Entry)
     Since the road T12 is temporary road, the traffic sign also will be treated as temporary.

4) Other facilities:
   Disposal area No2; at the vicinity of STA.28+100km along the Permanent Road P1
   Worker's camp No.1; at the vicinity of STA.23+500km along the Permanent Road P1

1.2 The Access Road Alignment of T12 road

• Alignment; Please see attachment-1

• Habitat type : Natural habitat along T12 road exists from Point S to 520m at the left side. The remain areas are occupied by modified habitat with 720m (See attachment-2).

• Land use type :There is no compensation and no land acquisition. (See attachment-3)

• Protected areas: Regarding the related protected areas, there is only Houay Ngua Provincial Preservation Area (“PPA”) within NNP1’s construction areas, where passes through from approx. STA 6.7 km to STA 18.4 km along the existing access road from Ban Nonsomboun to Ban Hat Gniun. However, T12 road locates far away from Houay Ngua PPA.

• Wild life crossings: The applicable area is not identified

• Creeks crossing access road requiring bridges or culvers: Not applicable

2. Purpose of Site Specific Environmental and Social Management and Monitoring Plan (SSESMMP-CP) Preparation

- The SSESMMP-CP has been prepared prior to access road construction commencement and will be used as a tool to ensure that appropriate environmental management practices are implemented to minimize the environmental impacts during the construction phase. The SSESMMP-CP is a working document and will be revised, if necessary:

  i) there is a change in the scope or design of the access road
  ii) after significant environmental incident.
  iii) there is a need to improve performance in area of environmental impact mitigation

- According to the IEE in November 2013, the cumulative impacts have not been foreseen during the construction phase. Thus, the SSESMMP-CP is focused on mitigation measures to address the direct and indirect impacts during the construction phase.
3. Facilities Associated with this Access Road Section

3.1 For each of the facilities in this section, discuss:(See attachment-1)

Construction Camp: Permanent road P1 (the vicinity of STA. 23+500km)
   The setting of worker's camp for Road T12 construction is planned at the vicinity of STA 23+500km.
   The workers commute by vehicles from this point. The current site condition of planned camp yard is not required to be cleared.

Bridge: Not applicable

Solid waste disposal areas:
   At the first phase (Until completion of disposal area No.2); the vicinity of camp yard as temporary basis
   All disposal materials collected and separated except of spoil disposal shall be stored in the vicinity of Camp Yard and finally treated by the disposal company.
   At the second phase (After completion of disposal area No.2); Disposal area No.2 along permanent road P1 (the vicinity of STA.28+100km)
   A part of those materials (packing timber, bricks, plaster, roofing material, grass, concrete, tiles, fiber grass, plastic and food waste) and spoil disposal will be transported and filled in the disposal area No.2 after the completion of site investigation.
   The solid waste disposal areas (Disposal area No.2) are to be required of clearance works as preparation works.

Wastewater Treatment Facilities: worker's camp (the vicinity of STA.23+500km)
   The construction of work camps will be equipped with adequate temporary sanitary facilities to avoid potential discharge both of gray and black wastewaters to ground or nearby surface watercourses. These may include oil trap for canteen wastewater and septic tanks.

Asphaltic Concrete Batching Plant: Not applicable

Stock yard of material; Not applicable

Disposal area: Permanent road P1 (the vicinity of STA. 28+100km)
   Disposal area No.2

3.2 Environmental Health and Safety Training Program

Before starting construction works, the Environmental Health and Safety is to be trained to all relevant labours with appropriate materials including 1) training date, 2) venues, 3) trainer, 4) training topics and 5) Signature of workers by using appropriate language and/or pictures in order to make them understanding.

Training date before the commencement of this work
Venues on site
Trainer Construction Manager/Chief Engineer
Training topics See attachment-4
Signature of Labour See attachment-4
3.3 Existing Land Use along the Project Alignment

Land use type; Same as 1.2
Habitat type; Same as 1.2
Sensitive receptors; Not applicable
Erosion Sensitive areas; Not applicable

3.4 Existing Land Use of Facilities

There are no facilities (See attachment-3).

3.5 Sensitive Areas

Same as 1.2

4. Indicative Construction Schedule

1) Construction Period (See attachment -5 Whole Works Schedule)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Q'ty</th>
<th>Unit</th>
<th>Working days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 10 15 20 25 30 35 40 45 50 55 60</td>
</tr>
<tr>
<td>1</td>
<td>Site clearance (STA 0+000km - 0+720 km)</td>
<td>6,000</td>
<td>m2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Excavation / Embankment (STA 0+000km - 0+720 km)</td>
<td>6,000</td>
<td>m3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Drainage for PVC or Concrete pipe * if necessary</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Subbase (STA 0+000km - 0+720 km) * if necessary</td>
<td>300</td>
<td>m3</td>
<td></td>
</tr>
</tbody>
</table>

- The construction area of T12 is more than 2.5km away from the Ban Hatsaykham, thus the influence of the noise and vibration caused by construction machines and the vehicle movement to be used for the T12 road works does not be expected to be so much for the village above.
- The number of sub-contractor’s engineer, operator and workers are 18 Nos./day.
- The workers commute by vehicles from the worker’s camp (refer section 3.1).
- The number of dump trucks to transport sub-base course material are about 10Nos/day (total about 70Nos.) from the outside of this site.
- This work will be carried out only in the daytime.

2) Maintenance Period (Operation Period): the middle of January 2014~the middle of April 2014
- The main work of road maintenance is road surface treatment during another access routes ensuring(Road No.T5:B ~ H⇒P2:H ~ G⇒P1:G ~ I ~ S).
- The main use is the transportation of the heavy machine and the fuel.
- The quantity of daily traffic is as follows:
  - Fuel trucks are 2 Nos./day
  - Workers commuting vehicles are 6 Nos./day.
  - Heavy machine moving is appropriately.
  - Other vehicles are Owner or Contractor’s car.
- OC shall patrol and check this road condition during rain fall and after rain fall and improve the road surface, slope and ditch roughness.
- OC will request the sub-contractor for maintenance team if necessary.
5. Mitigation Measures for Construction Impacts

Summary of mitigation measures for T12 road works

<table>
<thead>
<tr>
<th>Specific Areas for T12 road works</th>
<th>Mitigation measures for T12 road works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow pit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Asphalitic concrete batching plant</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Stockpile of material and spoil disposal area</td>
<td>Air quality, Spoils Disposal, Erosion and Sedimentation</td>
</tr>
<tr>
<td>Campsite/construction area</td>
<td>Air quality, Water Availability and Pollution control, Solid Waste, Construction Work Camp</td>
</tr>
<tr>
<td>Maintenance shop</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Road works</td>
<td>Air quality, Spoils Disposal, Erosion and Sedimentation, Traffic Management and Local Access, Damage to Properties and Community Facilities (If necessary), Accidental Discovery of Artifacts (If necessary), Occupational Health and Safety, Public Safety, Vegetation Clearing and re-vegetation</td>
</tr>
</tbody>
</table>

5.1 Community Facilities (Power Lines, Irrigation Canals, etc.): Not applicable

5.2 Air Quality (SP07 of sub-plans; Emission and dust control)
- All vehicles and machinery will be maintained in accordance with manufacturers’ specifications.
- All vehicles, while parked on the site works, will be required to have their engines turned off.
- Unnecessary engine idling of vehicles and equipment will be prohibited.
- Smoke belching vehicles and equipment shall not be used for the project.
- Minimize construction vehicle trips and reduce transport distances for material deliveries and other construction-related trips to the maximum extent feasible (e.g., by using local materials and labor sources).
- Dust generating activities (particularly clearing, excavation and earth moving) will be avoided or minimized during windy conditions.
- If visible dust emissions result from a construction activity, that activity will cease until water spraying has been undertaken to prevent dust emissions or the dust hazard passes.
- Vehicle and machinery movements will be restricted to designated access ways and work areas.
- Speed limits (typically 25 km per hour and 10 km per hour outside and within villages, respectively) will be imposed on all construction vehicles to minimize dust emission along areas where sensitive receptors are located.
- Unsealed Project roads, compounds and work areas accessible by vehicle will be regularly sprayed with water to suppress dust when a hazard exists.
- Exposed surfaces will be progressively rehabilitated appropriately following the completion of use to reduce the site dust and erosion hazards.

5.3 Noise Level: Not applicable
- T12 road works will commence after the completion of the rehabilitation of JICA road. During the construction term of T12 road, vehicles concerned this project exclude the workers will pass the existing road (Road No. A, P1 and T12). However the number of vehicles are about 10 Nos. /day. And the limited speed is less than 10km/h from the entrance to end of the village. Therefore, there is little influence with the traffic vehicle at the road in the village area.
5.4 Vibration Level: Not applicable

- T12 road works will commence after the completion of the rehabilitation of JICA road. During the construction term of T12 road, vehicles concerned this project exclude the workers will pass the existing road (Road No. A, P1 and T12). However the number of vehicles are about 10 Nos./day. And the limited speed is less than 10km/h from the entrance to end of the village. Therefore, there is little influence with the traffic vehicle at the road in the village area.

5.5 Erosion and Sedimentation (SP01 of sub-plans; Erosion and sediment control)

See attachment-6 “Erosion and Sediment Control Design Plan”

5.6 Spoils Disposal (SP02 of sub-plans; Spoils Disposal)

This road work will carry out in dry season. After the completion of site inspection at the disposal area No.2, disposal materials will be transported and filled in there. OC shall carry out the measures as follows.

- Spoil disposal shall not cause sedimentation and obstruction of flow of watercourses, damage to agricultural land and densely vegetated areas.
- Each spoils (excavated soil and rock, cut vegetation, removed pavement, etc.) shall be immediately transported to disposal sites approved by local authorities, spread and compacted.
- The underdrain shall be installed at the bottom of the disposal site.
- The surface of disposal area shall be smoothly and formed a down-gradient from the center to the outside. The ditches shall be installed all over this place
- This work will be carried out during the dry season.

5.7 Water availability and pollution control (SP04 of sub-plans; Water availability and pollution control)

- Whenever feasible, use mobile fueling/maintenance units for construction equipment to avoid/reduce on-site fuel/lubricant storage.
- The contractors shall provide sanitation facilities/toilets with septic tanks with sufficient capacity to handle and treat domestic wastewater generated by workers.
- Domestic wastewater will be connected with the septic tank by ditches and pipes.
- Implement solid and septic system waste management efforts, such as proper location, containment and disposal of construction debris and construction worker camp trash (e.g., use of watertight dumpsters and weekly trash collection/removal), and appropriate location (at least 30 m from drainage courses or other sensitive areas) and containment of portable septic systems.

5.8 Solid Waste: (SP12 of sub-plan; Waste management and disposal)

- Waste management sites shall be surveyed and clearly pegged by the Contractor or its nominated sub-contractor prior to the commencement of site preparation and waste.
- Project waste will be minimized by applying the waste minimization hierarchy principles of ‘avoid/reduce/re-use/recycle/dispose’
- Any waste material that is unable to be re-used, re-processed or recycled will be disposed at a facility approved to receive that type of waste.
- Waste segregation will occur at source, separating re-usable/recyclable material from non-hazardous waste (packing timber, steel, wire, cables, aluminium, bricks, plaster, roofing material, glass, clay/sand/gravel, concrete, insulation material, tiles, fibreglass, cured concrete, paper, cardboard, plastic, food waste) and hazardous waste (waste oils, oil filters, oily rags,
used absorbent, old chemical/paint/fuel/oil drums, batteries, acids, alkalis, welding rods, sewerage sludges, and used tyres)
• Until the land and way to disposal area is ensured, the solid waste shall be separated, collected and carried out to the disposal company.
(PAKSAN URBAN DEVELOPMENT ADMINISTRATION AUTHORITY or Department of Environment)

5.9 Borrow Pits: Not applicable

5.10 Traffic Management and Local Access (SP14 of sub-plan; Traffic and access)
• Post traffic advisory signs (to minimize traffic build-up) in coordination with local authorities.
• Provide sufficient lighting at night within and in the vicinity of construction sites.
• Regularly monitor traffic conditions along access roads to ensure that project vehicles are not causing congestion.
• Define and observe schedules for different types of construction traffic trips (e.g., transport of pre-cast sections, haulage of spoils, delivery of construction materials, etc.).
• Speed limits will be typically 25 km/h at the outside and 10 km/h in the vicinity of each villages.
• Schedule heavy truck traffic such as equipment ingress/egress and material deliveries to avoid peak traffic periods, and using methods such as escort vehicles and warning signs/lights to increase public awareness of potential hazards and reduce accident potential.
• Project vehicles shall not be allowed in busy highways during peak hours in the morning and afternoon.
• Maintain existing access routes to local sites and uses whenever feasible, including methods such as preserving access roads, driveways or providing temporary crossings (e.g. metal plates) over excavated areas or trenches.

5.11 Damage to Properties and Community Facilities: if necessary
• Local roads that will be used by the project shall be upgraded prior to use and shall be repaired and fully restored at the end of the project. The contractor shall immediately repair and/or compensate for any damage caused by the contractor.
• Access roads damaged during transport of construction materials and other construction-related activities shall be repaired and maintained to ensure that these remain in passable condition to motorists and pedestrian.

5.12 Accidental Discovery of Artifacts: if necessary
• If a construction worker identifies a potential site or item of cultural significance, he/she will immediately notify the EO, and EO will immediately notify the Owner.
• The Owner will determine whether the site/item has potential significance.
• If the site/item is considered to have significance, the Owner will immediately cease work and secure the area adjacent to the site and item to prevent damage to such site and item.
• The Owner will immediately notify the RMU.
5.13 Occupational Health and Safety (SP17 of sub-plan; Project personnel health program)
  • Provide first aid facilities that are readily accessible by workers.
  • Provide personnel with appropriate safety equipment such as safety boots, helmets, gloves, protective clothes, breathing mask, goggles, ear protection, etc. and ensure that these are properly worn as required.
  • Ensure reversing signals are installed on all construction vehicles.
  Implement fall prevention and protection measures whenever a worker is exposed to the hazard of falling more than two meters, falling into operating machinery or through an opening in a work surface. Based on a case-specific basis, fall prevention/protective measures may include installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area, proper use of ladders and scaffolds by trained employees, use of fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard, fall protection devices such as full body harnesses, etc.
  • Implement precautions to ensure that objects (e.g., equipment, tool, debris, pre-cast sections, etc.) do not fall onto or hit people, vehicle, and properties in adjoining areas.

5.14 Public Safety
  • Signage should be installed at the periphery of the construction site to warn and direct traffic and pedestrians.
  • Provide security personnel in hazardous areas to restrict public access.
  • Strictly impose speed limits on construction vehicles along residential areas and where other sensitive receptors such as schools, hospitals, and other populated areas are located.
  • Educate drivers on safe driving practices to minimize accidents and to prevent spill of hazardous substances and other construction materials during transport.
  • Limiting construction vehicle speeds to appropriate levels (typically 25 km per hour and 10 km per hour outside and without villages, respectively) to reduce accident potential, and securing all construction vehicles and equipment during non-working periods to prevent unauthorized access or use (e.g. through use of a fenced and locked staging site and/or security guards).

5.15 Vegetation Clearing and re-vegetation (SP11 of sub-plan; Vegetation Clearing)
  • Keeping clearance to the minimum area required for the proposed Project activity.
  • The extent of vegetation clearance at each site shall be surveyed and clearly marked prior to the commencement of clearing. This shall include marking any Adequately protect identified vegetation to be retained within the site boundaries.
  • No material is stockpiled at the base of trees.
  • Machinery is not parked under trees.
  • Vegetation is not harvested by construction workers, either for their personal use or sale.
  • Machinery clearance shall be strictly controlled to ensure safe working conditions.
  • In natural habitat areas to be cleared, microhabitat features such as hollow logs will be relocated to adjacent natural habitat areas rather than being destroyed where possible.
  • Basically, the surface vegetation including stumps and roots shall be removed before stripping topsoil. Any suitable topsoil which is free from roots and vegetable matter shall be stockpiled in the specified area and used for planting and /or embankment.
  • Revegetation of batters using some of the stripped topsoil should commence as soon as the road has been formed, while the remainder of the topsoil should be retained in stockpiles until the road is eventually closed and revegetated. These stockpiles should be in the mean time to stabilize them until use.
5.16 Protected Area Management: Not applicable

5.17 Construction Work Camp (SP16 of sub-plan; Construction Work Camp)

- All workers who are based on the construction site will be accommodated by one of the construction camps.
- Buildings in Residence camps and sub-camps will be made ‘mosquito-proof’ as far as possible through ensuring adequate sealing of doors and windows, provision of suitable ventilation and as necessary, installing mosquito-nets and other prevention devices.
- In general, access to the camps will be restricted to construction workers and visitors with an authorized access pass.
- All potable water storage facilities will be secured, with access limited to authorized personnel.
- A set of rules and regulations applicable to camps and sub-camps will be developed. The rules and regulations will include:
  - Prohibitions on hunting and poaching of wildlife, purchasing wildlife meat, fishing, gathering and harvesting medicinal or valued plants and trees, and possessing firearms, snares, traps and other hunting equipment
  - Access restrictions for non-construction personnel
  - Housecleaning and waste management requirements
  - Prohibitions
- Measures for preserving health and the dissemination of vectors and transmissible diseases
- Residents of the camps shall be provided with written information and training on camp rules and regulations. Camp rules and regulations will be prominently displayed in the camp areas.
### 6. Environmental Monitoring Program for T12 road works

#### 6.1 Contractor Environmental Compliance Inspection and Monitoring

<table>
<thead>
<tr>
<th>No.</th>
<th>Potential Impacts Sources</th>
<th>Description of Measure</th>
<th>Monitoring</th>
<th>Location</th>
<th>Frequency</th>
</tr>
</thead>
</table>
| SP-1 | Erosion by Site Disturbance | - All staff involved in earthworks shall be walked through the layout of control measures on site to familiarize themselves with the functioning of controls and to avoid the removal of or damage to these measures.  
  - The extent of areas to be cleared will be minimized into the construction area.  
  - Undertake earthworks strictly within marked areas, avoiding soil disturbance beyond these areas.  
  - Strictly control access to and from the site via designated entry and exit points  
  - The use of existing cleared areas will be maximized.  
  - All slope will be treated and compacted by backhoe bucket. The use of existing cleared areas will be maximized.  
  - All slope will be treated and compacted by backhoe bucket.  | Visual site inspection  | This road area | Weekly during construction period and after runoff generating storm events in rainy season. Monthly in dry season. |

  - Erosion by water flow  
    - In case construction works cause obstruction of watercourses, such obstruction shall be immediately cleared to restore channel flow.  
    - Temporary sedimentation pond will be provided at the vicinity of the disposal area No.1.  
    - To ensure the rain fall water way, the ditch at T12 road will connect with JICA road ditch and P1 road ditch.  
    - The road surface will be covered with aggregate. This matter protects road surface erosion.  
    - Stored topsoil materials shall be transported and fill in disposal area No.2 during this dry season. |
<table>
<thead>
<tr>
<th>No.</th>
<th>Potential Impacts Sources</th>
<th>Description of Measure</th>
<th>Monitoring</th>
<th>Location</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>OC shall be approved all correctly located sites.</td>
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</tr>
<tr>
<td>SP-02</td>
<td>Spoils Disposal</td>
<td>Design of spoil disposal area Transport of spoil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design of spoil disposal area</td>
<td>· Spoil disposal shall not cause sedimentation and obstruction of flow of watercourses, damage to agricultural land and densely vegetated areas.</td>
<td>Visual site inspection</td>
<td>Disposal area No.2</td>
<td>Monthly</td>
</tr>
<tr>
<td></td>
<td>Transport of spoil</td>
<td>· Each spoils (excavated soil and rock, cut vegetation, removed pavement, etc.) shall be immediately transported to disposal sites approved by local authorities, spread and compacted.</td>
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<td></td>
<td></td>
<td>· The underdrain shall be installed at the bottom of the disposal site.</td>
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<td></td>
<td></td>
<td>· The surface of disposal area shall be smoothly and formed a down-gradient from the center to the outside. The ditches shall be installed all over this place.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>· This work will be carried out during the dry season.</td>
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<td></td>
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<tr>
<td>SP-4</td>
<td>Water availability and pollution control</td>
<td>Waste Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waste Water</td>
<td>· Whenever feasible, use mobile fueling/maintenance units for construction equipment to avoid/reduce on-site fuel/lubricant storage.</td>
<td>Visual site inspection</td>
<td>Worker’s camp</td>
<td>Monthly</td>
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<td>· The contractors shall provide sanitation facilities/toilets with septic tanks with sufficient capacity to handle and treat domestic wastewater generated by workers.</td>
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<td>· Domestic wastewater will be connected with the septic tank by ditches and pipes.</td>
<td>Refer “SP12 Sewage”</td>
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<td>· Implement solid and septic system waste management efforts, such as proper location, containment and disposal of construction debris and construction worker camp trash (e.g., use of watertight dumpsters and weekly trash collection/removal), and appropriate location (at least 30 m from drainage courses or other sensitive areas) and containment of portable septic systems.</td>
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<td>No.</td>
<td>Potential Impacts Sources</td>
<td>Description of Measure</td>
<td>Monitoring</td>
<td>Location</td>
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<td></td>
<td>SP-7 Emission and dust control</td>
<td><strong>Exhaust Emission</strong></td>
<td>Visual site inspection</td>
<td>All construction area</td>
<td>Weekly</td>
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<td></td>
<td>Earth work Material transport</td>
<td><strong>Dust generating activities (particularly clearing, excavation and earth moving) will be avoided or minimized during windy conditions.</strong></td>
<td>Visual site inspection</td>
<td>All construction area</td>
<td>Weekly</td>
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<td><strong>If visible dust emissions result from a construction activity, that activity will cease until water spraying has been undertaken to prevent dust emissions or the dust hazard passes.</strong></td>
<td>Visual site inspection</td>
<td>All construction area</td>
<td>Weekly</td>
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<td><strong>Vehicle and machinery movements will be restricted to designated access ways and work areas.</strong></td>
<td>Visual site inspection</td>
<td>All construction area</td>
<td>Weekly</td>
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<td><strong>Speed limits (typically 25 km per hour and 10 km per hour outside and within villages, respectively) will be imposed on all construction vehicles to minimize dust emission along areas where sensitive receptors are located.</strong></td>
<td>Visual site inspection</td>
<td>All construction area</td>
<td>Weekly</td>
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<td><strong>Unsealed Project roads, compounds and work areas accessible by vehicle will be regularly sprayed with water to suppress dust when a hazard exists.</strong></td>
<td>Visual site inspection</td>
<td>All construction area</td>
<td>Weekly</td>
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<td>No.</td>
<td>Potential Impacts Sources</td>
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| SP-7 | Emission and dust control Earth work | • Exposed surfaces will be progressively rehabilitated appropriately following the completion of use to reduce the site dust and erosion hazards.  
• In the event of a spillage, spilled material will be removed as soon as practicable that day.  
• All construction equipment and machinery on the site works will be regularly maintained and will be repaired as necessary to ensure compliance with safety and emission standards.  
• Regularly clean roadways to remove tracked in mud, cement, etc. from construction works. | Visual site inspection | All construction area | Weekly |
| SP-11 | Vegetation Clearing Clearing of site | • Keeping clearance to the minimum area required for the proposed Project activity.  
• The extent of vegetation clearance at each site shall be surveyed and clearly marked prior to the commencement of clearing. This shall include marking any Adequately protect identified vegetation to be retained within the site boundaries.  
• No material is stockpiled at the base of trees.  
• Machinery is not parked under trees.  
• Vegetation is not harvested by construction workers, either for their personal use or sale.  
• Machinery clearance shall be strictly controlled to ensure safe working conditions.  
• In natural habitat areas to be cleared, microhabitat features such as hollow logs will be relocated to adjacent natural habitat areas rather than being destroyed where possible.  
• Basically, the surface vegetation including stumps and roots shall be removed before stripping topsoil. Any suitable topsoil which is free from roots and vegetable matter shall be stockpile in the specified area and used for planting and/or embankment. | Visual site inspection | All construction area | Monthly |
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<th>No.</th>
<th>Potential Impacts Sources</th>
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<td>Revegetation of batters using some of the stripped topsoil should commence as soon as the road has been formed, while the remainder of the topsoil should be retained in stockpiles until the road is eventually closed and revegetated. These stockpiles should be in the mean time to stabilize them until use.</td>
<td>Visual site inspection</td>
<td>Worker’s camp</td>
<td>Monthly</td>
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<tr>
<td>SP-12</td>
<td>Waste management and disposal</td>
<td>Disposal area of construction waste</td>
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<td></td>
<td>Products from construction activities</td>
<td>Project waste will be minimized by applying the waste minimization hierarchy principles of ‘avoid/reduce/re-use/recycle/dispose’</td>
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<td>Any waste material that is unable to be re-used, re-processed or recycled will be disposed at a facility approved to receive that type of waste.</td>
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<td>Waste segregation will occur at source, separating re-usable/recyclable material from non-hazardous waste (packing timber, steel, wire, cables, aluminium, bricks, plaster, roofing material, glass, clay/sand/gravel, concrete, insulation material, tiles, fibreglass, cured concrete, paper, cardboard, plastic, food waste) and hazardous waste (waste oils, oil filters, oily rags, used absorbent, old chemical/paint/fuel/oil drums, batteries, acids, alkalies, welding rods, sewerage sludges, and used tyres)</td>
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<td>Until the land and way to disposal area is ensured, the solid waste shall be separated, collected and carried out to the disposal company. (PAKSAN URBAN DEVELOPMENT ADMINISTRATION AUTHORITY or Department of Environment)</td>
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<td>Sewage</td>
<td>Where sewered toilet facilities are provided, sewage shall be treated to acceptable level through the septic tank before being released (or use for site watering) in accordance with applicable standard. • Oil separating room will be installed into the septic tank. • Treated wastewater will be released into the NNp River. • Workers will be instructed to use the toilets provided.</td>
<td>Measurement of water quality</td>
<td>Worker’s camp</td>
<td>Monthly</td>
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<tr>
<td>SP-14 Traffic and access</td>
<td>Road traffic condition</td>
<td>• Post traffic advisory signs (to minimize traffic build-up) in coordination with local authorities. • Provide sufficient lighting at night within and in the vicinity of construction sites. • Regularly monitor traffic conditions along access roads to ensure that project vehicles are not causing congestion. • Define and observe schedules for different types of construction traffic trips (e.g., transport of pre-cast sections, haulage of spoils, delivery of construction materials, etc.). • Speed limits will be typically 25 km/h at the outside and 10 km/h in the vicinity of each villages. • Schedule heavy truck traffic such as equipment ingress/egress and material deliveries to avoid peak traffic periods, and using methods such as escort vehicles and warning signs/lights to increase public awareness of potential hazards and reduce accident potential. • Project vehicles shall not be allowed in busy highways during peak hours in the morning and afternoon. • Maintain existing access routes to local sites and uses whenever feasible, including methods such as preserving access roads, driveways or providing</td>
<td>Visual site inspection</td>
<td>All exist road</td>
<td>Monthly</td>
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<td>temporary crossings (e.g. metal plates) over excavated areas or trenches.</td>
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</table>
|     | SP-16 Construction Work Camp | Facilities for Worker | • All workers who are based on the construction site will be accommodated by one of the construction camps.  
• Buildings in Residence camps and sub-camps will be made ‘mosquito-proof’ as far as possible through ensuring adequate sealing of doors and windows, provision of suitable ventilation and as necessary, installing mosquito-nets and other prevention devices. | Visual site inspection | Worker’s camp | weekly |
|     | | Health risks illegal activity | • In general, access to the camps will be restricted to construction workers and visitors with an authorized access pass.  
• All potable water storage facilities will be secured, with access limited to authorized personnel.  
• Measures for preserving health and the dissemination of vectors and transmissible diseases  
• A set of rules and regulations applicable to camps and sub-camps will be developed. The rules and regulations will include:  
  − Prohibitions on hunting and poaching of wildlife, purchasing wildlife meat, fishing, gathering and harvesting medicinal or valued plants and trees, and possessing firearms, snares, traps and other hunting equipment  
  − Access restrictions for non-construction personnel  
  − Housecleaning and waste management requirements  
  − Prohibitions  
• Residents of the camps shall be provided with written information and training on camp rules and | Visual site inspection | | |


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<th>Potential Impacts Sources</th>
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<th>Monitoring</th>
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<th>Frequency</th>
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</table>
|       | SP-17                    | **Occupational health and safety**  
  • Provide first aid facilities that are readily accessible by workers.  
  • Provide personnel with appropriate safety equipment such as safety boots, helmets, gloves, protective clothes, breathing mask, goggles, ear protection, etc. and ensure that these are properly worn as required.  
  • Ensure reversing signals are installed on all construction vehicles.  
  • Implement fall prevention and protection measures whenever a worker is exposed to the hazard of falling more than two meters, falling into operating machinery or through an opening in a work surface. Based on a case-specific basis, fall prevention/protection measures may include installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area, proper use of ladders and scaffolds by trained employees, use of fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard, fall protection devices such as full body harnesses, etc.  
  • Implement precautions to ensure that objects (e.g., equipment, tool, debris, pre-cast sections, etc.) do not fall onto or hit people, vehicle, and properties in adjoining areas | Visual site inspection | All construction area | Monthly |
|       |                          | regulations. Camp rules and regulations will be prominently displayed in the camp areas.                                                                                                                                                                                                                                                                               |                        |                        |            |
7. Institutional Setup for SS-ESMMP-CP Implementation

7.1 Roles and Responsibilities for SS-ESMMP-CP Implementation and Monitoring

The Construction Contractor is responsible for the implementation and compliance with recommendations and conditions of the Owner’s ESMMP-CP (Section 4) as follows;

- Develop and implement the Construction Contractor’s Environmental Management Plan (Construction Contractor’s EMP) and SSESMMPs to be in line with the Project commitments (i.e. Owner’s EMP and ESMMP-CP);
- Provide adequate resources to implement the Construction Contractor’s plans;
- Plan and direct construction activities at relevant sites to minimize environmental impacts and comply with environmental management procedures, license and approval requirements;
- Implement routine inspection and monitoring program, as well as a process of corrective and preventive action for non-compliance arising from internal and external inspections and audits;
- Report on environmental performance and incidents to Owner;
- Liaise with Owner’s EM and/or EO to ensure environmental mitigation measures are implemented;
- Ensure compliance with the ESMMP-CP at all times during construction via inspection, monitoring, and implementation; and
- Maintain an environmental register which keeps a record of all incidents which occur on the site during construction;

Responsibilities will be communicated to relevant personnel through their Project position descriptions, inductions and/or routine meeting.

7.2 Training Program for T12 road works

For supervisors and foremen, as well as for workers which could be affected by environmentally critical activities, additional specific environmental trainings will be organized in the fields and the involved employee should attend. The specific environmental training programs should consist of as following but not limit to;

- Instruction of site rules for new sub-contractors (Before commencement of their work)
- Safety Mass Meeting (once/month)
- Safety and First Aid Training (at the appropriate time)
- Fire Prevention Training (at the appropriate time)
- Emergency Preparedness and Response (at the appropriate time)

7.3 Reporting Procedure for T12 road works

Monthly Monitoring Report should include the following items:
- Assessing impact levels to the project area during the construction stage,
- Proposing mitigation measures (if needed),
- Conclusion and recommendation,
- Photos of monitoring activities, and
7.4 Applicable Permits for T12 road works

The permits with the need that we will take separately as follows
1) Transport all dangerous materials (such as chemicals and flammable or explosive materials) : Not applicable
2) Registration of all vehicles used in the Lao PDR as transportation vehicles :
   OC and all subcontractors shall register
3) The possession, transportation and storage of explosives and chemicals
   : Not applicable
4) The importation of explosive devices and the utilization plan
   : Not applicable

7.5 Grievance Redress Mechanism

OC will prepare the Public Complain Management Plan (PCMP) to ensure registration of any public complaints and implementation of appropriate corrective actions to be addressed. In case of damages on private structures, crops or animals resulting to loss of income for local communities, a detailed compensation framework shall be included in order to set clear and agreed compensation rules.

7.5.1 Procedure of communication and record keeping of all complaints

- OC will develop a procedure of communication and record keeping of all complaints received in a complaints register template.
- Prior to commencement of work in the vicinity of the residence, representatives of four villages should be explained the contents of the work and contact information.
- The complaints record shall include;
  - Date of complaint received
  - Complainant of the complaint
  - The name of the person who received the complaint
  - Way of complaint (i.e. in person, telephone, e-mail, letter etc.)
  - The complaint description (cause, complaint details, etc.)
- Monthly reports will be prepared identifying any complaints received in relation to construction noise and documenting the actions that were undertaken to resolve such complaints.
- The PCMP shall be in accordance with Owner’s Grievance Redress Mechanism.

7.5.2 Corrective action procedure of complaints

- OC will develop corrective action procedure, including compensation which Contractor is responsible for all accidental losses to the third parties other than compensation to the where is necessary for construction under the Civil Works Contract.
General Layout of Access Roads

REV.: DRAWN: RECOMMENDED: CONCURRED: APPROVED

DATE: November, 2013

JOB NO.: REV.NO.: JOB DESCRIPTION

NAM NGIEP 1 POWER COMPANY LTD.

NAM NGIEP 1 HYDROPOWER PROJECT

APPROVED

DRAWING NAME

SCALE: A3 1/20,000

Temporary Road: T1 ~ T13 (New Construction, Usage Period; Construction period)
Permanent Road: P1, P2 (New Construction, Usage Period; Construction and operation period)
Existing Road: JICA Road (Rehabilitation, Usage Period; Construction period)

Temporary Road T12

JICA Road

Attachment-1
### ប្រការដំប្រាស់វិទ័យសិក្សា

<table>
<thead>
<tr>
<th>គ្រប់ទីកន្លែងប្រការ</th>
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<th>ស្ថានភាពការប្រការ</th>
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<tr>
<td>សាលាការនីសន្តី T12</td>
<td>28 ខែមករា 2013, (ពេលព្រឹត្តិការ) 3:00</td>
<td>15 ការប្រការ</td>
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**ជួយធ្វើការប្រការ**

1. អាចទទួលបាន គីយុតិត៍ ឬម៉ាកូដ ៍ប្រការ ១ ការ ។
2. មាន អំពីការប្រការ ១ ការ ។
3. អាចទទួលបាន ពីរាំ ១ ការ ។
4. អាចទទួលបាន ពីរាំ ១ ការ ។
5. អាចទទួលបាន ពីរាំ ១ ការ ។

**អនុវត្តន៍**

1. អាចទទួលបាន ពីរាំ ១ ការ ។
2. អាចទទួលបាន ពីរាំ ១ ការ ។
3. អាចទទួលបាន ពីរាំ ១ ការ ។
4. អាចទទួលបាន ពីរាំ ១ ការ ។
5. អាចទទួលបាន ពីរាំ ១ ការ ។

**ប្រការដំប្រាស់១**

1. អាចទទួលបាន ពីរាំ ១ ការ ។
2. អាចទទួលបាន ពីរាំ ១ ការ ។
3. អាចទទួលបាន ពីរាំ ១ ការ ។
4. អាចទទួលបាន ពីរាំ ១ ការ ។
5. អាចទទួលបាន ពីរាំ ១ ការ ។

**ប្រការដំប្រាស់២**

1. អាចទទួលបាន ពីរាំ ១ ការ ។
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4. អាចទទួលបាន ពីរាំ ១ ការ ។
5. អាចទទួលបាន ពីរាំ ១ ការ ។

**ប្រការដំប្រាស់៣**

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3. អាចទទួលបាន ពីរាំ ១ ការ ។
4. អាចទទួលបាន ពីរាំ ១ ការ ។
5. អាចទទួលបាន ពីរាំ ១ ការ ។

**ប្រការដំប្រាស់៤**

1. អាចទទួលបាន ពីរាំ ១ ការ ។
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**ផ្សេងៗ**

1. អាចទទួលបាន ពីរាំ ១ ការ ។
2. អាចទទួលបាន ពីរាំ ១ ការ ។
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5. អាចទទួលបាន ពីរាំ ១ ការ ។
1. លំសាន់ការវិភាគការសម្រាប់រដុំមេឃបុរសនៅក្នុងពេលជីវជាតិបានបង្កើតឡើងសម្រាប់ការបង្កើតក្រុមរដុំមេឃសម្រាប់ការសម្រាប់ទីក្រុងធ្វើរដុំមេឃ។ នេះគឺជាខ្លះដ៏ប្រសើរជាងណាមួយការតំបន់រដុំមេឃ T12 ដែលមានប្រព័ន្ធប្រឈមសង្ខាត់។ នេះគឺជាការមើលឈើក្រាមប្រការតំបន់រដុំមេឃ T12 ដែលមានប្រព័ន្ធប្រឈមសង្ខាត់ 0,720 ម៉ែត្រ។ រដុំមេឃនេះបានមានពិសេស។ សម្រាប់ទីក្រុងមេឃ T12 នៃប្រទេសកម្ពុជាចំពោះប្រទេសថៃ 0,720 ម៉ែត្រ។ ដំបូងតាមរយៈរដុំមេឃនេះបានប្រឈុតិចស្តុតានៅទីក្រុងមេឃ T12 ។

1) ការសម្រាប់ខោទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 ការសម្រាប់ខោទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 ។
2) ប្រឈមសង្ខាត់មេឃភាព T12 ប្រឈមសង្ខាត់មេឃភាព T12 ។
3) អនុវត្តន៍នៃទីក្រុងបុរស T12 អនុវត្តន៍នៃទីក្រុងបុរស T12 ។
4) អនុវត្តន៍នៃទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 អនុវត្តន៍នៃទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 ។
5) ប្រឈមសង្ខាត់មេឃភាព T12 ប្រឈមសង្ខាត់មេឃភាព T12 ។
6) អនុវត្តន៍នៃទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 អនុវត្តន៍នៃទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 ។
7) ប្រឈមសង្ខាត់មេឃភាព T12 ប្រឈមសង្ខាត់មេឃភាព T12 ។
8) អនុវត្តន៍នៃទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 អនុវត្តន៍នៃទីក្រុងឈឺឈឺប្រការតំបន់រដុំមេឃ T12 ។

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សូមមកដល់អំពីការឈ្មោះចេញឆ្នាំ 28 ខែកក្កដា 2013.
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<td>N. Shailaja</td>
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<td>N. Prasanth</td>
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<td>R. V. Shailaja</td>
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**Signature for attending the meeting (Subject):**

**Date and Time:** 28/11/2022 10:00 AM

**Venue:** [Venue Details]
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Title MOM of joint site survey for impact assessments from T12 temporary road construction works

<table>
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<th>Location:</th>
<th>Date:</th>
<th>Attendee: 15 People</th>
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<tbody>
<tr>
<td>On site of T12 temporary road</td>
<td>28 Nov 2013,</td>
<td></td>
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<td>Time: 3:00 PM</td>
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Participants:
As shown in the MoM of Lao language version

Distribution:
1) RMU Office, Bolikhamxay
2) NNP1PC Office
3) Obayshi Corporation (OB)
4) Local Authority, Hat Ngium and Hatsaykham Village

A | Purpose: To confirm and agree the followings among Local governments, local authorities, Head of village of Ban Hat Gniun and Ban Hatsaykham, and NNP1PC.
   | Details of the construction work Possibility of impacts to villager’s properties by the construction works
   | No private land and Government land only along the T12 road.
   | Any social and environmental impact from the works
Results

1. Through the Joint Site Inspection, all members confirmed and agreed with the commencement of the construction activities as follows.
   1) For the detail drawings and technical specification of T12 road the committee have no objection to construct the road and base on the drawings of NNP1 provided.
   2) There is no private land along the non-exclusive right of way, thus no compensation is required.
   3) There is no commercial tree along the T12 road.
   4) UXO clearance was completed.
   5) During the construction, NNP1PC together with local government will monitor and inspect impacts from the construction activities.
   6) The Contractor should try to prevent a turbid water occurrence by applying, for example, a settling pond or pipe culvert. During rainy season, the Contractor should monitor a turbidity water occurrence not only from a road surface but also a slope above the road. If any adverse impact can be found, the Contractor shall make efforts to minimize the impact.
   7) There is a small stream running along the road T12 and connect to Nam Ngiep river. Mr. Ouvee Xiong(000005) owns his garden land (non-residential land) at the mouse. In case of a turbid water occurrence, there might be some adverse impact to the land. Prior to the works, NNP1PC and the Contractor shall explain the construction activities to the land owner.
   8) The Contractor shall inform the head of village of Hat Gniun and Hat saykham of his works before and during the construction.

This Memorandum has been truly recorded and construed according to the meeting on date 28 November 2013.

<table>
<thead>
<tr>
<th>RMU</th>
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<th>Obayashi Corporation</th>
<th>Hat Nguin Head village</th>
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</table>

Remark: Name List of committee is attached
• อั้งผูกบ (กฎ) และอั้งผูกบางจากระเบียบ

Site Regulation & Instruction

1) ในขณะที่อยู่ในสถานที่ทำงาน ตลอดจนสิ้นสุดการทำงาน โปรดใช้ร่มกันแดดและผ้าห่มกันฝน ภายในที่ทำงาน ภายในสถานที่ทำงาน โปรดใช้รองเท้าแกมกันฝน โปรดใช้ร่มกันแดดและผ้าห่มกันฝน.

Within the work-site, always wear a safety helmet and put on proper shoes when working.

It is not acceptable that you wear open-toe sandals.

In case that you are in an enclosed cabin of a vehicle including dump truck, you may not wear helmet.

However, you should wear a helmet in equipment such as an excavator, roller, or motor grader.

2) ภาวะฉุกเฉินที่สำคัญได้เกิดขึ้นอยู่ในสถานที่ทำงาน.

ความปลอดภัยของตนเองในสถานที่ทำงาน มีระเบียบในการจัดอยู่ในเรือน 25 กิโลเมตรต่อชั่วโมง

ความปลอดภัยของตนเองในสถานที่ทำงาน มีระเบียบในการจัดอยู่ในเรือน 10 กิโลเมตรต่อชั่วโมง

ที่นั่งใช้รถที่มีตู้ซุ้ม อยู่ในเขตชนบท ไม่สามารถเข้ามาได้.

Take care to avoid traffic accidents. The speed of a vehicle is to be no more than 10km/h and 25km/h within and outside village area.

When traveling on a blind corner, you shall sound your hone alert other drivers or pedestrian.

3) こんにちはทำงานไปแล้วต้องมีกิจกรรมเป็นประจำ ต้องมีกิจกรรมเป็นประจำ

There shall be no alcohol drunk immediately before or during a work-shift and specified smoking areas will be provided during working time.

4) ช่วงอบรมอั้งผูกบต้องทำกิจกรรมสุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่นที่สุขภาพถิ่

You must keep the body and clothes clean properly.

5) ช่วงชมที่อยู่ของกะทม์ประจำต้องทำกิจกรรมที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดจ

The excretion is a decided place.

6) ช่วงชมที่อยู่ของกะทม์ประจำต้องทำกิจกรรมที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดเจนที่ชัดจ

Before the work start, you do prepare gymnastics.
7) You are not allowed to hunt, poach wildlife, harvest medicinal or valued plants and trees in the site.

8) You must take the garbage home with you properly.

9) The site and access to the site shall be kept in a clean and tidy condition and workers shall co-operate local residents. No information about the project shall be given to local residents and all enquiries shall be directed to a member of Obayashi staff.

10) To co-operate between the different companies working on site. Your company is not the only company working.

11) In case you have a question about a work procedure, always discuss it with a senior member of staff and never make a decision or judgement yourself if you are not sure.

12) Never approach any equipment within its working radius until stopped using the machine.
13)  If you find abnormal phenomenon at site, inform member of Obayashi staffs immediately.

14)  If you feel bad condition, you shall inform to your company and stop working.

15)  The above regulations and instructions are to protect your body from injury and to preserve life. If you don’t follow our instruction and warning, we will request you to dismiss from our project.
**Training Record**

**Project / Office:**

**Title of Training:** New Employee Indocatination  
**Date:**

**Topics Covered:**
- General Safety
- Site regulation and instruction for project

**Training Conducted By:**

**Venue of Training:**

**Duration:**

**Training Material (to attach if any):**

**List of Trainees**

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**Review on Effectiveness of Training**

Reviewed by:  
Signature  
Date:

**Signature of Faculty:**
Erosion and Sediment Control Design Plan

This road work will carry out in dry season. However OC shall take the following measures in consideration of influence of the wet season:

- All staff involved in earthworks shall be walked through the layout of control measures on site to familiarize themselves with the functioning of controls and to avoid the removal of or damage to these measures.
- The extent of areas to be cleared will be minimized into the construction area.
- Undertake earthworks strictly within marked areas, avoiding soil disturbance beyond these areas.
- Strictly control access to and from the site via designated entry and exit points.
- All slope will be treated and compacted by backhoe bucket.
- The use of existing cleared areas will be maximized.
- In case construction works cause obstruction of watercourses, such obstruction shall be immediately cleared to restore channel flow.
- To ensure the rain fall water way, the ditch at T12 road will connect with JICA road ditch and P1 road ditch.
- The road surface will be covered with aggregate. This matter protects road surface erosion.
- Stored topsoil materials shall be transported and fill in disposal area No.2 during this dry season.
- OC shall be approved all correctly located sites.

There is no river and creek in this construction area. Therefore it is unnecessary to install sediment pond.