**FINAL ENVIRONMENTAL AND SOCIAL REVIEW CHECKLIST**

Micro-project title: Construction of a new potable water pipeline in the village of Voskepar

Micro-project #: TTV-04

Is the environmental management plan (ESMP) developed?

Yes + No _____

Does ESMP provide a full list of potential impacts and establish adequate measures for their mitigation?

Yes + No _____

**Conclusion of the Final Environmental and Social Assessment**

<table>
<thead>
<tr>
<th>Conclusion</th>
<th>Micro-project approved (environmental assessment completed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-project rejected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>
**INSTITUTIONAL & ADMINISTRATIVE**

<table>
<thead>
<tr>
<th>Micro-project number and title</th>
<th>TTV-04 Construction of a new potable water pipeline in the village of Voskepar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipality, community</td>
<td>Tavush, marz, Voskepar community</td>
</tr>
<tr>
<td>Scope of site-specific activity</td>
<td>Currently, water is supplied to the village through water pipelines constructed from three springs. The first “Shachmi” spring has around 1.2l/sec. output. Length of the water pipeline is 1.0km. It is constructed by steel pipes and is in a good condition. The second one is “Macakenc gomer” spring. Its captation and water pipelines are in a good condition. The water pipeline is constructed by dy=80mm steel and polyethylene pipes. In the course of time, water output from the source has been decreased and currently, it is around 0.1 l/sec. The third “Gayli” source’s output is 0.5 l/sec. Length of the water pipeline is 3.0km. It is constructed by dy=80mm steel pipes and is in a good condition. The captation has sanitary zones. Currently, the volume of water that the village receives is 1.8 l/sec, the village needs water around 3.7 l/sec. Daily run off ponds with capacity of 300m³ and 150 m³ are available in the village. They are in a good condition and have sanitary zones. Length of the distribution network is 10 km. It is constructed by dy=150-50mm steel pipes and is in a good shape. The micro-project will finance construction of a new captation at the source located west to the village. Sanitary zone will be arranged around it. Water pipeline (7.75 km) will be constructed from the captation to the existing pond (300cubic/m). Water pipeline will be constructed of polyethylene pipes (around 2.125km.) with the diameter of 90mm and steel pipes (around 5.63km) with the diameter of 89x3.5 mm. Air ventilation and discharge pit are envisaged on the water pipeline with corresponding equipment. Thermal insulation will be applied to open sections of the pipe in ravines. Replacement of the pipes in the pit and managerial junction’s equipment of the daily run-off pond (100 m³), renovation of the separate parts of the sanitary zones’ fence of the daily run-off ponds and construction of a chlorinator on a pond (300 m³) by installing dry chlorination equipment are also planned under the micro-project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Institutional arrangements (WB)</th>
<th>Task Team Leader: Erkin Mamadaliev</th>
<th>Safeguards Specialist: Darejan Kapanadze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation arrangements (RoA)</td>
<td>Implementing entity: ATDF</td>
<td>Works Supervisor: “Alternative” LTD</td>
</tr>
</tbody>
</table>

**SITE DESCRIPTION**

<table>
<thead>
<tr>
<th>Name of institution whose premises are to be rehabilitated</th>
<th>Water Department of Tavush marzpetaran (regional governor office), Voskevan potable water pipeline non-profit organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address and site location</td>
<td>Address: Tavush marz, Voskevan village.</td>
</tr>
<tr>
<td>Who owns the land?</td>
<td>The proposed land plots for reconstruction of water supply pipes are the property of the village Voskepar according to the legal decision of land allocation N19-A, 07.10.2015. The allocated land is 12300sq. meter starting from NK53+00 to NK77+60 route with 5 meters width.</td>
</tr>
</tbody>
</table>
One part of the water supply in Voskepar village, Tavush region is carried out from the source “Champi tak” located in the South-western part of the village; and the other from the source located near Ijevan-Noyemberyan highway in the Northern part of the village. Debit of all the sources is small and variates from 0.2 l/sec to 0.6 l/sec. Total flow is not exceeding 1.8 l/sec. Water flow in the sources has seasonal fluctuations. The level of sources is sufficient for organizing gravity water supply for various parts of the village. All the water receiver systems are in sufficient condition. The volume of existing water reservoirs is sufficient to serve community’s drinking, economic, and emergency (including fire-fighting) water demand.

The whole route of the pipelines is passing through the lands which are property of the Community. The proposed land is not used by any private household; there are no structures, crops, trees or business in the proposed site. There are no subterranean networks across the route of the pipelines.

### LEGISLATION

National & local legislation & permits that apply to project activity:

- Construction of a new potable water pipeline is not subject to the Environmental Impact Assessment and to the issuance of the expert environmental review conclusion.
- According to the Armenian legislation, the following permissions are required for this micro-project:
  1. The chemical and bacteriological analysis of the source
  2. Hydrogeological conclusion
  3. Special permission of water use
  4. Land allocation for captations sanitary areas and pipeline construction
  5. Construction Permit

### PUBLIC CONSULTATION

When / where the public consultation process will take / took place:

Public consultation was carried out on February 11, 2016 in Voskepar, Tavush Marz.

### ATTACHMENTS

- Annex 1: Photos and plan of the construction site
- Annex 2: Copy of an agreement for construction waste disposal
- Annex 3: Copy of the land allocation document
- Annex 4: Minutes of Environmental and Social Public Consultations
- Annex 5: Copy of a Construction Permit
- Annex 6: Copy of the Water Use Permit
**PART B: SAFEGUARDS INFORMATION**

<table>
<thead>
<tr>
<th>Activity/Issue</th>
<th>Status</th>
<th>Triggered Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Building rehabilitation</td>
<td>[+ Yes [ ] No</td>
<td>See Section A below</td>
</tr>
<tr>
<td>B. New construction</td>
<td>[+ Yes [ ] No</td>
<td>See Section A below</td>
</tr>
<tr>
<td>C. Individual wastewater treatment system</td>
<td>[ ] Yes [+ No</td>
<td>See Section B below</td>
</tr>
<tr>
<td>D. Historic building(s) and districts</td>
<td>[ ] Yes [+ No</td>
<td>See Section C below</td>
</tr>
<tr>
<td>E. Acquisition of land(^1)</td>
<td>[ ] Yes [+ No</td>
<td>See Section D below</td>
</tr>
<tr>
<td>F. Hazardous or toxic materials(^2)</td>
<td>[ ] Yes [+ No</td>
<td>See Section E below</td>
</tr>
<tr>
<td>G. Impacts on forests and/or protected areas</td>
<td>[ ] Yes [+ No</td>
<td>See Section F below</td>
</tr>
<tr>
<td>H. Handling / management of medical waste</td>
<td>[ ] Yes [+ No</td>
<td>See Section G below</td>
</tr>
<tr>
<td>I. Traffic and Pedestrian Safety</td>
<td>[ ] Yes [+ No</td>
<td>See Section H below</td>
</tr>
</tbody>
</table>

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\(^1\) Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transfered and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

\(^2\) Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.
## PART C: MITIGATION MEASURES

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PARAMETER</th>
<th>MITIGATION MEASURES (provide costs where applicable)</th>
</tr>
</thead>
</table>
| **0. General Conditions** | **Notification and Worker Safety**             | (a) The local construction and environment inspectorates and communities have been notified of upcoming activities  
(b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works)  
(c) All legally required permits have been acquired for construction  
(d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment.  
(e) Workers’ PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots)  
(f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow. |
| **A. General Construction Activities** | **Air Quality**                                | (a) During interior demolition debris-chutes shall be used above the first floor  
(b) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust  
(c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site  
(d) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust  
(e) There will be no open burning of construction / waste material at the site  
(f) There will be no excessive idling of construction vehicles at sites |
|                           | **Noise**                                       | (a) Construction noise will be limited to restricted times agreed to in the permit  
(b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible |
|                           | **Water Quality**                               | (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers. |
|                           | **Waste Management**                           | (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.  
(b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers.  
(c) Construction waste will be collected and disposed properly by licensed collectors  
(d) The records of waste disposal will be maintained as proof for proper management as designed.  
(e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos) |
| **B. Individual wastewater treatment system** | **Water Quality**                               | (a) The approach to handling sanitary wastes and wastewater from building sites must be approved by the local authorities  
(b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment  
(c) Monitoring of new wastewater systems (before/after) will be carried out  
(d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies. |
| **C. Historic building(s)** | **Cultural Heritage**                          | (a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation.  
(b) It shall be ensured that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds. |
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PARAMETER</th>
<th>MITIGATION MEASURES CHECKLIST</th>
</tr>
</thead>
</table>
| D. Land Acquisition Plan/Framework | Land Acquisition Plan/Framework | (a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank’s Task Team Leader shall be immediately consulted.  
(b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented. |
| E. Toxic Materials | Asbestos management | (a) If asbestos is located on the project site, it shall be marked clearly as hazardous material.  
(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure.  
(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust.  
(d) Asbestos will be handled and disposed by skilled & experienced professionals.  
(e) If asbestos material is stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site.  
(f) The removed asbestos will not be reused. |
| | Toxic / hazardous waste management | (a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information.  
(b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching.  
(c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility.  
(d) Paints with toxic ingredients or solvents or lead-based paints will not be used. |
| F. Affected forests, wetlands and/or protected areas | Protection | (a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities.  
(b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided.  
(c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences.  
(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas. |
| G. Disposal of medical waste | Infrastructure for medical waste management | (a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to:  
- Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal; and  
- Appropriate storage facilities for medical waste are in place; and  
- If the activity includes facility-based treatment, appropriate disposal options are in place and operational. |
| H. Traffic and Pedestrian Safety | Direct or indirect hazards to public traffic and pedestrians by construction activities | (a) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to:  
- Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards  
- Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes.  
- Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement  
- Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public.  
- Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public. |
# Environmental Monitoring Plan for construction and operation phases.

<table>
<thead>
<tr>
<th>Activity</th>
<th>What (Is the parameter to be monitored?)</th>
<th>Where (Is the parameter to be monitored?)</th>
<th>How (Define the frequency / or continuous?)</th>
<th>When (Is the parameter being monitored?)</th>
<th>Why (Is the parameter being monitored?)</th>
<th>Who (Is responsible for monitoring?)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION PHASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Supply of construction materials</td>
<td>Purchase of the construction materials from licensed providers</td>
<td>Offices and warehouses of material suppliers, and borrowing sites</td>
<td>Checking documents; Inspection of material quality</td>
<td>In the process of signing the agreements for material provision</td>
<td>Ensure technical quality of construction; Protect human health and environment</td>
<td>ATDF</td>
</tr>
<tr>
<td>2. Transportation of construction materials and waste</td>
<td>Technical condition of construction vehicles and machinery; Adequacy of the loading trucks for transported types of cargo, and canopy coverage of cargo transported in open trucks; Movement of construction vehicles and machinery along pre-defined routes</td>
<td>Routes for transportatio of construction materials and construction wastes</td>
<td>Inspection of roads adjacent to the construction site and included in the agreed-upon routes of transportation</td>
<td>Unannounced checks during the working hours</td>
<td>Avoid air and road pollution with dust and solid matter; Reduce traffic disruption</td>
<td>ATDF, Municipality of the village of Voskepar</td>
</tr>
<tr>
<td>3. Generation of construction waste</td>
<td>Temporary storage of inert and hazardous wastes separately at the designated locations</td>
<td>Construction site and base (if applicable); Visual observation</td>
<td>Checking documents; Visual observation</td>
<td>Entire period of construction</td>
<td>Avoid pollution of the environment</td>
<td>ATDF, Municipality of the village of Voskepar</td>
</tr>
<tr>
<td>4. Accumulation of household waste</td>
<td>Provision of waste containers on-site; Agreement with local municipality for regular out-transporting of waste</td>
<td>Construction site and base (if applicable)</td>
<td>Visual inspection</td>
<td>Entire period of construction</td>
<td>Avoid pollution of soil and water with household waste</td>
<td>ATDF, Municipality of the village of Voskepar</td>
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<tr>
<td>5. Safety of labor</td>
<td>Provision of uniforms and protective gear to the contractor’s personnel and enforcement of their use by contractor; Consistency with the rules of exploitation of the construction equipment and usage of private safety means</td>
<td>Construction site</td>
<td>Inspection of the activities</td>
<td>Entire period of construction</td>
<td>Reduce the probability of accidents</td>
<td>ATDF</td>
</tr>
<tr>
<td>6. Undertaking works within the settlement</td>
<td>Deparkation and fencing of work site; Timely backfilling of soil once pipes are laid in trenches; No parking of construction vehicles and machinery outside work site the way impeding free</td>
<td>Construction site and nearly area</td>
<td>Visual inspection</td>
<td>Entire period of construction</td>
<td>Reduce disruption of movement around the work site and decrease probability of accidents</td>
<td>ATDF, Municipality of the village of Voskepar</td>
</tr>
</tbody>
</table>

locations; Timely disposal of waste to the formally designated landfills for waste disposal
passage of traffic and pedestrians; No piling and no scattering of construction materials and waste outside the work site

<table>
<thead>
<tr>
<th>OPERATION PHASE</th>
<th>1. Ensuring smooth operation of water intakes, DDRs and pipeline</th>
<th>Permanent maintenance of water intakes, DDRs and pipeline</th>
<th>Water supply scheme</th>
<th>Inspection</th>
<th>During scheme operation</th>
<th>Deliver quality service to water users</th>
<th>Local municipality of the village of Voskepar</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Ensuring quality of potable water supplied to the village</td>
<td>Adherence to the national standards of the drinking water</td>
<td>Water supply scheme</td>
<td>Inspection</td>
<td>During scheme operation</td>
<td>Prevent occurrence of water-born diseases</td>
<td>Sanitary-Epidemiologic Station of RA</td>
<td></td>
</tr>
</tbody>
</table>
Annex 1. Photos of sub-project site and layout of water supply system

This is an old DDR in the village

Rural high DRR

The proposed layout of the water supply system
Annex 2. Agreement for construction waste disposal

Non-official translation of the above attached document:

Reference

The following reference is given that within the framework of the construction of drinking water supply system in Voskepar Community submitted to Armenian Territorial Development Fund by Voskepar Community in Tavush Region the generated waste will be transported to the waste collection area “Madni Chxur”, which is situated 2 km far from the construction site.

Head of Community (signed) Y. Yeganyan
Annex 3. Land allocation document

Non-official translation of the above attached document:

**Decree**

07 Oct., 2015 Number 19-A

On land appropriation

According to the 27th part of 16th article of law on Local Self-Government of the Republic of Armenia the Community Council made a decision to:

1. Allocate 12300 sq. meter land plot starting from NK53+00 to NK77+60 routes with 5 meter width to carry out the construction of drinking water supply system in Voskepar;

2. The Decree enters into force upon signing.

Head of Community (signed) Y. Yeganyan
Annex 4: Minutes of Environmental and Social Public Consultations

MINUTES

Of Public Consultations
on draft Environmental and Social Management Plan
for the construction of a new potable water supply system in Voskepar community

A stakeholder consultation meeting on the draft Environmental and Social Management Plan (ESMP) for the construction of a new potable water supply system in Voskepar Community was held on February 11, 2016 in Voskepar, Tavush Marz.

The announcement for the meeting in Armenian and English languages, including its date and time, was disclosed on the ATDF web page (www.atdf.am) on 01 Feb, 2016. Information on the meeting day and time was posted on information boards of Voskepar Community Administration Office; in addition the Administration conducted telephone calls to ensure participants’ attendance.

The public consultation was carried out by ATDF Social Specialist Sonya Msryan and ATDF Environmental Specialist Asya Osipova. 18 participants were present at the meeting, among which 6 women (about 33%).

At the very beginning, Head of the Community Mr. Yervand Yeganyan introduced the main purpose of the consultation and ATDF specialists.

A. Osipova introduced the main purpose as well as World Bank requirements and Armenian legislation on conducting environmental and social assessment. She introduced ESMP for the construction of a potable water supply system in Voskepar Community and outlined likely negative environmental impacts related to the Micro-project implementation. These include pollution of air, generation of construction waste.

Ms. Osipova explained what measures ATDF will apply to mitigate possible negative impacts, including construction waste transportation. It was mentioned that ESMP covers the issue of the transportation and disposal of construction wastes and excessive soil.

Since the construction site is located far from the Community, A. Osipova outlined that disturbance to community life due to construction activities is not anticipated. Technical supervisors on monthly basis will keep under control the fulfillment of all the environmental mitigation measures included in ESMP, and report the deviations to ATDF.

S. Msryan presented the main provisions of the ESMF concerning to the social aspects of the Project. She talked about possible social risks and ways of their mitigation. She emphasized that the project does not involve any resettlement as proposed area of the construction is public property; however she briefly introduced key features of Resettlement Policy Framework.
S. Msryan talked also about main socio-economic challenges including engagement of women, youth and vulnerable groups in distribution of benefits. She outlined that these groups should have equal opportunities to be engaged in project benefits. The concept was welcomed by participants, who suggested involve constructors from the Community mentioning that it will reduce unemployment in Community and labor immigration for seasonal works.

Ms. Msryan explained mechanisms of public engagement and grievance redress mechanism (GRM) to be applied during project implementation. Elected grievance focal point at the community level Lilit Manucharyan was introduced to the community members. S. Msryan explained the purpose of Focal points at local level and welcomed participants to apply to Lilit in case of questions/feedback or grievances concerning to the project implementation.

S. Msryan informed the beneficiaries that they also have the option to contact ATDF directly to communicate their grievance if they are unable to, or do not wish to, go through the PIC grievance focal point. S. Msryan explained all the canals of grievance submition involveing e-mail address, hot line telephone number, postal address and web-site link and outlined that ATDF contact information is referred on the booklets delivered to the participants, as well as on the information desk already available in public visable places in the Community. S. Msryan introduced that information on Micro-project details permanently will be available on the information desks, as well as on-going announcements and references. She outlined that these will support to raising public awareness and early identification, assessment and resolution of complaints on Project activities.

One of the participant outlined that 14 days for respond for the grievances is too long time and it will slow the procedure of efficient problem solving. S. Msryan explained that 14 days are defined as deadline for proper notification of complainer; the grievances are reviewed in daily basis and in case urgent problem notification is received response will be imadiately.

One of the participants said that they hope the construction works will be started soon as soon as weather conditions will be sufficient.

The participants were welcomed to raise other questions regarding to the discussed questions. No other questions were raised by the participants.

The list of participants and photos are attached.
List of Participants
Photos of Public Consultation
Annex 5: Copy of a Construction Permit
Annex 6: Water Use Permit