

## Environmental Management Plan (EMP) Checklist

### PART 1: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country	Armenia			
Project title	Energy Efficiency Project Mets Masrik Village Secondary School Energy Efficiency Subproject			
Scope of project and activity	Energy efficiency measures to be applied to Mets Masrik Village Secondary School include: replacement of windows and doors, partial replacement of windows by walls, and adjustment of the existing boiler house.			
Institutional arrangements (Name and contacts)	WB Task Team Leader  Ani Balabanyan <a href="mailto:abalabanyan@worldbank.org">abalabanyan@worldbank.org</a>	Project Management R2E2 Fund Director  Tamara Babayan <a href="mailto:director@r2e2.am">director@r2e2.am</a>	Local Counterpart and/or Recipient:  Mets Masrik Village Secondary School	
Implementation arrangements (Name and contacts)	Safeguard Supervision  Darejan Kapanadze <a href="mailto:dkapanadze@worldbank.org">dkapanadze@worldbank.org</a>	Local Counterpart Supervision  Hmayak Avagyan <a href="mailto:hmayak.avagyan@gmail.com">hmayak.avagyan@gmail.com</a>	Local Inspectorate Supervision  -	Contactors: Erknaqer LLC Sergey Drmoyan <a href="mailto:erknaqer@rambler.ru">erknaqer@rambler.ru</a>
SITE DESCRIPTION				
Name of site	Mets Masrik Village Secondary School			
Describe site location	Secondary school is located in Masrik village of Gegharquniq marz (province), Republic of Armenia (RA). Address: Toumanyany Street 15. The school's buildings have been operated since 1982. The school consists of six two-story buildings and a one single-story building. The buildings have the following external dimensions (L×W): Building 1 – 36.7×12.9m Building 2 – 36.6×12.76m Building 3 – 36.5×12.9m Building 4 – 30.5×12.7m Building 5 – 36.6×12.8m Building 6 – 36.5×12.9m Building 7 – 36.7×12.9m  Rehabilitation works will be conducted in Building 1, 2 and 3.		Attachment 1: Site Map [√] Y [ ] N Attachment 2: Waste Disposal Permit	
Who owns the land?	The land of the construction site is a public property and the user rights to which are held by Mets Masrik Village Secondary School.			
Description of geographic, physical, biological, geological, hydrographic and socio-economic context	Mets Masrik village is located in north-east Armenia in Gegharquniq marz. Village is situated at the flank of Vardenis mountain ridge having a length of 82km, on the altitude of 1940m above sea level.  The region has dry continental climate. Summer is hot and dry, the average temperature in July is 25°C, and the absolute maximum temperature is 43°C. Winter is cold, the average temperature in January is -3.6°C, and the absolute minimum temperature is -29°C. The average annual temperature is 11.8°C; average annual relative humidity is 62%; average annual precipitation is 250-300mm.  Being located in cold climatic zone, the region has cool summer and cold winter. The average temperature in July is 16.2°C, and the absolute maximum temperature is 34°C. The average temperature in January is -8.5°C, and the absolute minimum temperature			

	<p>is -38°C. The average annual temperature is 4.4°C; average wind speed is 3.1m/sec; average annual relative humidity is 71%; average annual precipitation is 432mm.</p> <p>Lacustrine, alluvial and proluvial sediments occur in Masrik field. Mountain black earth and mountain grassland soils prevail in the area.</p> <p>Sparrow, quail, partridge, and starling are most common birds.</p> <p>The number of population as of January 1, 2012 is 3432.</p> <p>Mets Masrik village has one secondary school, an elementary school, two kindergartens, a preschool, a medical unit, a flour mill, a hotel, a gas-filling station, a TV tower, a meteorological station, a communication center, a centre of social and cultural activities, and shops.</p>
<p>Locations and distance for material sourcing, especially aggregates, water, stones?</p>	<p>Mets Masrik village is located 5km north-east of Vardenis railway station on the bank of the Masrik River. The distance from Mets Masrik to Yerevan is 170km. The necessary aggregates and stones for the construction activities are available in Vardenis city; the water is available in Mets Masrik village.</p>
<b>LEGISLATION</b>	
<p>Identify national &amp; local legislation &amp; permits that apply to project activity</p>	<p>The following Armenian legislation defines a legal framework applicable to project activities:</p> <ul style="list-style-type: none"> <li>- Law on Atmospheric Air Protection of RoA (1994) The purpose of Law on Atmospheric Air Protection is to define main principles of the RoA, directed to provision of purity of atmospheric air and improvement of air quality, prevention and mitigation of the chemical, physical, biological and other impacts on air quality and regulation of public relation.  <i>According to this law contractor shall undertake demolition and construction activities as well as transportation and temporary storage of wastes the way to minimize dust and other emissions to the air.</i></li> <li>- Law on Waste of RoA (2004) The law provides the legal and economic basis for collection, transportation, disposal, treatment, re-use of wastes as well as prevention of negative impacts of waste on natural resources, human life and health. The law defines the roles and responsibilities of the state authorized bodies as well as of waste generator organizations in waste management operations.  <i>According to this law, the waste generated by the demolition and construction activities should be recycled as appropriate, or disposed of in designated locations.</i></li> <li>- Law on Environmental Impact Assessment of RoA (1995) The law defines type of activities which are subject to environmental impact assessment and ecological expertize. <i>According to this law works planned at Mets Masrik Village Secondary School are not subject to the ecological expertize.</i></li> <li>- Law on Urban Development of RoA (1998) <i>According to this law works planned at Mets Masrik Village Secondary School do not require obtaining of the construction permit.</i></li> </ul>
<b>PUBLIC CONSULTATION</b>	

<p>Identify when / where the public consultation process took place</p>	<p>The initial public consultations on the Environmental Management Plan (EMP) framework were held in Yerevan at the early stage of the project preparation on March 23, 2011 to generate inputs from stakeholders. The representatives of Armenia R2E2 Fund, UNDP/GEF Project “Raising the energy efficiency of buildings”, “Alliance to Save Energy” Armenian representative office, Ministry of Energy and Natural Resources of the RA have been directly involved in the consideration of all aspects of EMP.</p> <p>Site-specific EMP will be disclosed on the R2E2 Fund website and beneficiary's website if it exists. Brief information on the planned works and contact information for addressing questions and grievance will be placed at the work site and/or in its immediate surroundings.</p>
<b>INSTITUTIONAL CAPACITY BUILDING</b>	
<p>Will there be any capacity building?</p>	<p><input checked="" type="checkbox"/> N or <input type="checkbox"/> Y</p>

## PART 2: SAFEGUARDS SCREENING AND TRIGGERS

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS			
	Activity/Issue	Status	Triggered Actions
Will the site activity include/involve any of the following?	A. Boiler house construction or building rehabilitation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section <b>A</b> below
	B. New construction of small structures or infrastructure	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section <b>A</b> below
	C. Impacts on surface drainage system	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section <b>B</b> below
	D. Historic building(s) and districts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section <b>C</b> below
	E. Hazardous or toxic materials <sup>1</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section <b>D</b> below
	F. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section <b>E</b> below
	G. Risk of unexploded ordinance (UXO)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If “Yes”, see Section <b>F</b> below
	H. Traffic and Pedestrian Safety	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If “Yes”, see Section <b>G</b> below

<sup>1</sup> Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

### PART 3: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
(a) 0. General Conditions	(b) Notification and Worker Safety	(c) The local construction and environment inspectorates and communities have been notified of upcoming activities (d) 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) (e) All legally required permits have been acquired for construction and/or rehabilitation (f) 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. (g) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (h) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	(a) During excavation works dust control measures shall be employed, e.g. by spraying and moistening the ground (b) Demolition debris, excavated soil (if required) shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling or breaking of pavement and foundations dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (school yards) shall be kept free of soil and debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) All machinery will comply with the national emission regulations, shall well maintained and serviced and 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 full water contamination control
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from excavation, 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 Contractor will reuse and recycle appropriate and viable materials (except when containing asbestos)
B. Impacts on surface drainage system	Water Quality	(a) There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers; the Contractor will obtain all necessary licenses and permits for water extraction and regulated discharge into the public wastewater system. (b) There will be proper storm water drainage systems installed and care taken not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes by construction activities (c) There will be procedures for prevention of and response to accidental spills of fuels, lubricants and other toxic or noxious substances (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
C. Historic building(s)	Cultural Heritage	(a) If construction works take place close to a designated historic structure, or are 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.
D. 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 to be 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 (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
E. Affected forests, wetlands and/or protected areas	Ecosystem 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 but 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.
F. Risk of unexploded ordinance (UXO)	Hazard to human health and safety	(a) Before start of any excavation works the Contractor will verify that the construction area has been checked and cleared regarding UXO by the appropriate authorities
G. Traffic and pedestrian safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(b) 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 <ul style="list-style-type: none"> <li>▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards</li> <li>▪ 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.</li> <li>▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement</li> <li>▪ If required, active traffic management by trained and visible staff at the site for safe passage for the public</li> <li>▪ Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction</li> </ul>

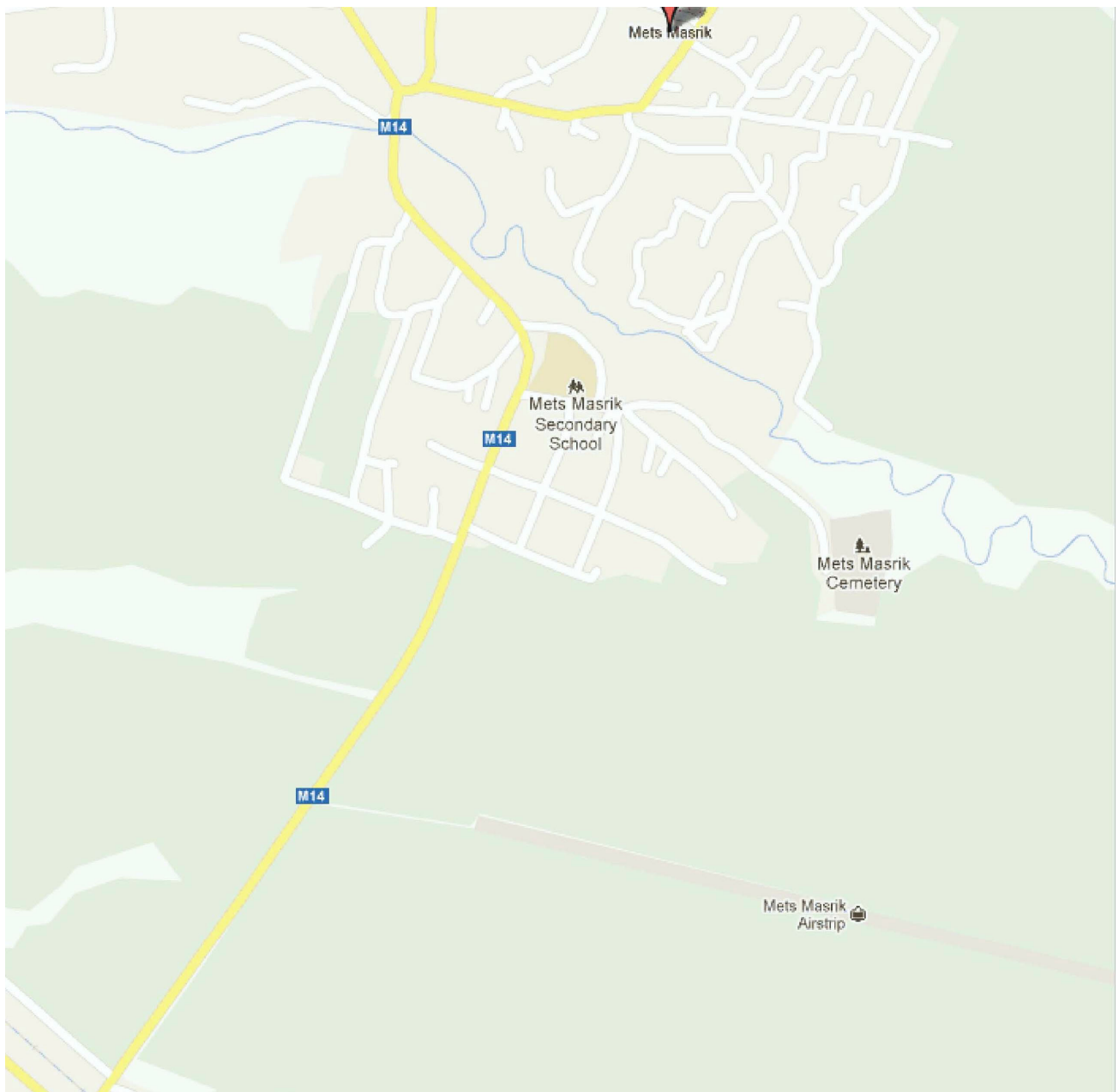
## PART 4: MONITORING PLAN

Activity	What	Where	How	When	Why	Who
<b>CONSRUCTION PHASE</b>						
Provision of construction materials (e.g. paints / solvents)	Purchase of construction materials from the registered providers	In the provider's office or warehouse	Verification of labels of the materials and/or certificates if any	During conclusion of supply contracts	Ensure reliability of construction materials and their safety for human health	R2E2 Fund
Transportation of construction materials and waste  Movement of construction machinery	<ul style="list-style-type: none"> <li>- Technical condition of vehicles and machinery</li> <li>- Confinement and protection of truck loads with lining</li> <li>- Respect of the established hours and routes of transportation</li> </ul>	<ul style="list-style-type: none"> <li>- Construction site</li> <li>- Routes of transportation of construction materials and wastes</li> </ul>	Inspection of roads adjacent to the construction object in the direction of the movement route	Selective inspections during work hours	<ul style="list-style-type: none"> <li>- Limit pollution of soil and air from emissions;</li> <li>- Limit nuisance to local communities from noise and vibration;</li> <li>- Minimize traffic disruption.</li> </ul>	R2E2 Fund  Traffic Police
Maintenance of construction equipment	<ul style="list-style-type: none"> <li>- Washing of cars and construction equipment outside the construction site or on maximum distance from natural streams</li> <li>- Refueling or lubrication of construction equipment and outside the construction site or at the predetermined confined area</li> </ul>	Construction site	Inspection of activities	Selective inspections during work hours	<ul style="list-style-type: none"> <li>- Avoid pollution of water and soil with oil products due to operation of equipment</li> <li>- Timely localize and decrease expected damage in case of fire</li> </ul>	R2E2 Fund

Generation of construction waste	<ul style="list-style-type: none"> <li>- Temporary storage of construction waste in especially allocated areas</li> <li>- Timely disposal of wastes to the formally designated locations</li> </ul>	Construction site; Waste disposal site	Inspection of activities	Periodically during construction and upon its completion	<ul style="list-style-type: none"> <li>- Prevent pollution of soil, surface water and ground water,</li> <li>- Avoid accidents at the construction site due to scattered fragments of construction materials and debris,</li> <li>- Retain esthetic appearance of the construction site and its surroundings</li> </ul>	R2E2 Fund  Mets Masrik Village Municipality
Construction site re-cultivation and landscaping	Final cleaning of the construction site and permanent access roads and landscaping-greening of the area as required	Construction site	Inspection of activities	Final period of construction	Reduce loss of aesthetical value of the landscape due to construction activities	R2E2 Fund
Workers' health and safety	<ul style="list-style-type: none"> <li>- Provision of constructors with working clothes and PPE</li> <li>- Strict compliance with the rules of construction equipment operation and usage of PPE</li> </ul>	Construction site	Inspection of activities	Total period of works	Reduce probability of traumas and accidents to constructors	R2E2 Fund

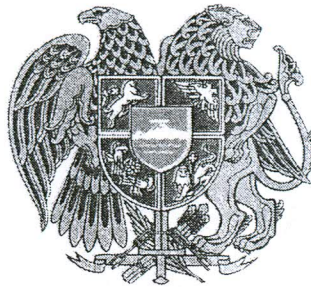


## ATTACHEMENT 1: SITE MAP



**ATTACHMENT 2: WASTE DISPOSAL PERMIT**

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REPUBLIC OF  
ARMENIA  
GEGHARKUNIK  
REGION  
MEC MASRIK  
VILLAGE

ՀՀ Գեղարքունիքի մարզ գ. Մեծ Մասրիկ Փողոց – 5, Շենք – 12, ☎ 6 – 12 – 83 Բջջ. (093) 404 – 151  
№424  
12.06.2013թ.

### Տեղեկանք

Տրվում է առ այն, որ ՀՀ Գեղարքունիքի մարզի «Մեծ Մասրիկի միջնակարգ դպրոց» ՊՈԱԿ-ի շենքի պատուհանների, դռների փոփոխման և ընթացիկ վերանորոգման ժամանակ առաջացած աղբի տեղափոխման համար հատկացված է համայնքի հարավային մասի սիլոսի անօգտագործելի խրամատների մոտ գտնվող տարածք:

Համայնքի ղեկավար՝

Ա. Աղայան

