

The new ESAP with the changes accepted and additional actions and in the most up to date format is presented in [Table Error! No text of specified style in document.-1](#) below.

[Table Error! No text of specified style in document.-1](#) **New Environmental and Social Action Plan**

NO	ACTION	ENVIRONMENTAL & SOCIAL RISKS (LIABILITY / BENEFITS)	REQUIREMENT (LEGISLATIVE, EBRD PR, BEST PRACTICE)	RESOURCES, INVESTMENT NEEDS, RESPONSIBILITY	TIMETABLE	TARGET AND EVALUATION CRITERIA FOR SUCCESSFUL IMPLEMENTATION	STATUS
1.1.	Prepare and submit reports on status of this Environmental and Social Action Plan, resolution of grievances and EHSS performance of the project	Monitoring of ESAP implementation and EHSS performance	EBRD PR1-10	PIU Internal resource	Annually	Submission reports on progress of implementation of ESAP, grievance resolution & EHSS performance (to EBRD)	
1.2	Publish a Non-Technical Summary (NTS) of this project and disclosed according to the requirements in SEP	Public communications of new projects and developments	EBRD PR10, paragraph 14	WSP PB has updated NTS	September 2015	Disclose NTS on web sites Provide link to NTS in annual report	
1.3	Establish and maintain Environmental, Social and Health & Safety Management System (ESHS). Employ EHS management staff with the Company. Develop and Implement ESHS Training program	Improvement of EHS performance	Best practice EBRD PR1 and PR2	PIU, PIU consultant	Establish during landfill construction, maintain throughout the Project duration	ESHS management system established, staff employed and trained, manuals available	
1.4	Develop and follow Landfill Operation Manual (LOM) covering the landfill and the transfer stations, Landfill Closure and Aftercare Manual (LCAM) including implementation of the Environmental and Social Monitoring Program (ESMP). All systems and procedures should be documented in a Project Procedures Manual. Hire relevant staff to undertake the implementation of the ESMP	Design and operation standards, E&S monitoring	Landfill Directive EBRD PR3	Develop: consultant Implement: LMC and contractor(s)	Develop LOM and Project Procedures Manual prior to start of landfill operation and LCAM prior to closure of landfill, implement throughout the Project duration and during aftercare period	Project procedures manual, LOM and LCAM available, monitoring system in place, monitoring contractor(s) engaged	
1.5	Prepare and implement a coordinated action plan for closure of existing dump sites in Abovyan, Byuregavan, Charentsavan, Sevan, and Yeghvard cities and for prevention of waste dumping in Kotayk Region and Sevan municipality within a short as possible timeframe following the new Hrazdan landfill becoming operational. Include measures to seal and secure the dump sites to prevent future informal waste dumping	Prevention of illegal dumping. Reducing pollution risks	Landfill Directive EBRD PR3	8 cities, PIU, consultant	Plan completed before commissioning of landfill, implementation within 9 months after the landfill commissioning	Dump site Closure Plan in place Quarterly progress reports	
1.6	Submit and obtain approval of the national EIA according to the Armenian procedure. Implement all	Environmental Impact	Armenian EIA Expertise	WSP PB has developed a	Prior to start of construction	Approval for EIA obtained from SEE	

	mitigation measures identified in the national EIA. If cables and pipes to be routed to the site, then E&S risks and impacts should be assessed and mitigation proposed	Assessment	EBRD PR1	national EIA, PIU consultant to complete studies and submit, SEE fee		
1.7	Carry out baseline environmental and social monitoring as part of ESMP. This includes ecological, geological and socio-economic surveys, with the latter as required in accordance with the requirements of the LRF. The hydrogeological survey should cover: <ul style="list-style-type: none"> • Additional borehole investigation of the site; • Establishment of groundwater levels across the site; • Basic survey of surface water bodies; • Confirmation that no groundwater abstractions are present within 1km of the site; • Hydraulic conductivity testing; • Limited chemical analysis of groundwater samples; • Limited physical testing of soils beneath the site; and • Use of a landfill model such as Landsim 	Environmental Impact Assessment	Armenian EIA Expertise EBRD PR1	PIU, PIU consultant	Prior to start of landfill construction	Baseline reports of ESMP
1.8	Ensure the tariff structure for waste collection from households is set at the level of not more than 1% of average income per capita. Monitor the income and tariffs as part of the ESMP and if there are problems, bring to the attention of EBRD and other relevant authorities. Develop a monitoring protocol for monitoring affordability with data collection to assess affordability and the performance of the tariff collection system. Develop a procedure for setting and adjusting of the tariffs, billing and collection of payments. Introduce incentivisation schemes to encourage payment and enforcement actions for illegal dumping. Implement targeted public awareness campaigns and education activities as detailed in the SEP to improve collection rates	Socio-economic impacts	EBRD PR1	PIU, PIU consultant	Develop income and tariff monitoring procedure as part of ESMP prior to start of landfill operation, implement during landfill operation	Reports on ESMP
1.9	Include in tendering documents the requirement for contractors to develop procedures/method statements for the project to manage the EHSS issues and mitigation measures identified including but not limited to the below, adopting international best practice in line with the Armenian legislation and the EBRD PRs: <ul style="list-style-type: none"> • EHSS procedures 	Minimise Health and Safety risks Reduce injuries	Best practice EBRD PR1 and PR2	PIU, PIU consultant	During preparation of tender specifications/dossiers	Tender dossiers

	<ul style="list-style-type: none"> Labour, working and worker accommodation conditions Community safety and security Supply chain sustainability Grievance mechanism Consultation and information disclosure requirements in line with the SEP <p>As part of the selection process, an assessment of EHS management policies, procedures and management capacities and previous performance should be undertaken.</p>					
2.0	Develop and implement a Contractors/Suppliers Compliance Monitoring Program (CCMP)	Minimise Health and Safety risks Reduce injuries	Best practice EBRD PR1 and PR2	PIU, PIU consultant	Prepare during tendering, adjust and implement on an on-going basis during all contractor works	CCMP
2.1	Develop and implement HR policy and procedures for the Company in accordance with EBRD PR2 to cover all employees, contractors and sub-contractors covering: <ul style="list-style-type: none"> Approach to workforce management Management of workers relationships Access to worker's organisations and unions Labour and working conditions and terms of employment Policies on child and forced labour Policies to ensure access to equal opportunities and non-discrimination Policies to provide oversight of contractors policies and procedures A functioning grievance mechanism 	Social and employment Policies	Best practice EBRD PR2	LMC, LMC consultant	Develop before commissioning of the landfill and implement as the Project routine	HR policy and procedures
2.2	Develop and implement procedures for recruitment and career development in a manner consistent with the principle of equal opportunities (for men and women). The procedure should include a local recruitment plan and code of conduct particularly if there will be worker accommodation on site.	Social and employment Policies	Best practice EBRD PR2	LMC, LMC consultant	Development: Prior to start of construction; Implementation: During construction and operation	Staffing schedule of the LMC
2.3	Carry out and keep updated OHS risk assessment of work places prepared by authorised consultant	Minimise Health and Safety risks Reduce injuries	Best practice EBRD PR2	LMC, LMC consultant	Carry out during Year 1 of landfill operation, up-date every five years (or as per Armenian regulation)	Reports on OHS risk assessment available from authorised consultant
2.4	Provide PPE for the staff of Company and include in tender documents the requirement for all contractors including the municipal waste collection companies in	Minimise Health and Safety risks	Best practice EBRD PR2	PIU, LMC, contractors	Include in tender requirements. Implement throughout landfill	Tender dossiers, annual PPE provision plans and

	8 cities to provide adequate PPE according to OHS assessment of workplaces and the local regulations; provide training and incentives for use of PPE, arrange for PPE cleaning, maintenance and timely replacement.	Reduce injuries			construction and operation	implementation reports available
2.5	Maintain the grievance mechanism in the SEP for the Company employees allowing them to submit their formal or informal grievances and issues of concern and to have them properly registered, followed up and addressed.	Effective engagement with stakeholders	EBRD PR10	WSP PB has updated SEP with grievance mechanism, LMC, LMC consultant	Establish within 6 months after signing Implement throughout the Project duration	Records of grievances and response as part of annual reports
2.6	Develop and implement Emergency Preparedness and Response Plan (EPRP) as part of LOM and LCAM. The basis of this should be an assessment of accident risks in an Accident Management Plan Regularly update the EPRP	Minimise Health and Safety risks Reduce injuries	Best practice EBRD PR2	LMC, LMC consultant	Develop before Project starts operation and implement with reviews on annual basis	EPRP in place
2.7	Prepare and implement emission control procedure as part of LOM	Emissions Control	EBRD PR3	LMC	Prepare prior to start of landfill construction, implement as the Project routine	LOM
2.8	Include emission control requirements in tender dossiers and monitoring procedure for contractors	Emissions Control	EBRD PR3	LMC, LMC consultant	Include during tendering and maintain during all contractor works	Tender dossiers, CCMP
2.9	Install and operate landfill daily cover, gas collection system and landfill gas monitoring system according to LOM	Emissions Control	EBRD PR3	Part of landfill operation costs	During landfill operation	LOM, ESMP
3.0	Carry out a feasibility study for landfill gas utilisation	Emissions Control	EBRD PR3	Consultancy fees	After 3 years of landfill operation	Feasibility study report
3.1	Install and operate landfill final cover, gas collection and utilisation (as per special feasibility study) system, as well as landfill gas monitoring system according to LCAM	Emissions Control	EBRD PR3	Part of landfill closure and aftercare costs	Develop procedure prior to start of landfill operation, implement during landfill closure and aftercare	LCAM, ESMP
3.2	Develop and implement (and include in tendering documents the requirement for all contractors to implement) water saving/efficiency measures.	Water efficiency	EBRD PR3	PIU, LMC, contractors	Development: Prior to start of construction; Implementation: During construction and operation	Tender dossiers, CCMP, LOM
3.3	Establish and maintain surface runoff management system and leachate management system, vehicle wash facility, sanitation system as part of LOM.	Water pollution	EBRD PR3	LMC, contractor	Establish prior to start of landfill operation, maintain during landfill operation	LOM
3.4	Prepare and implement surface water monitoring, groundwater monitoring and leachate monitoring programs as part of LOM and LCAM based on the monitoring requirements given under Section 17 of the ESIA.	Water pollution	EBRD PR3	LMC, LMC consultant	Prepare before landfill construction, implement during landfill construction, operation and after closure until stabilisation	LOM; LCAM, ESMP, reports on corrective actions

	Where non-compliances are identified, implement corrective actions. Provide long term design plans for leachate management (anticipated that leachate pond will be filled after 1-1.5 years)				of the waste	
3.5	As part of EHSS establish and implement a procedure (and include in tendering documents the requirement for all contractors to establish procedures) to ensure safe storage and handling of fuel, oil, waste and chemicals on paved surfaces equipped with secondary containment and drip trays, maintain relevant labelling, avoid washing of vehicles on the construction sites, carry out daily check of machinery for leaking oil, ensure management of leachate according to LOM	Water pollution	EBRD PR3	LMC, contractors	Include in tendering, establish and maintain construction works and during landfill operation	Tender dossiers, LOM, CCMP
3.6	Cover excavated soil during transportation by road vehicles. Store excavated soil at dedicated areas, ensure slope stability, arrange clean surface runoff. Include the same requirements in the tender documents for contractors For slope stability, undertake an assessment waste stability, interface friction between each layer and slope angles to ensure an acceptable safety factor	Dust emissions Soil spillage Slope stability	Landfill Directive EBRD PR3	LMC, contractors	During tendering and implementation of any activities involving excavation of soil or any movement of soil	Contracts, CCMP
3.7	Use construction materials supplied only from authorised borrow sites, wherever applicable use locally available construction materials. Include the same requirements in the tender documents for contractors	Soil usage and supply chain	EBRD PR3	PIU, LMC, contractor	During tendering and implementation of construction works, to be verified during construction supervision	Tender dossiers, CCMP, LOM
3.8	Implement soil saving measures for waste covering according to LOM. Prevent loss of mineral materials during transportation, handling and storage. Include the same requirements in the tender documents for contractors	Saving of mineral resources	EBRD PR3	PIU, LMC, contractor	Development: Prior to start of construction; Implementation: During construction and operation	Tender dossiers, CCMP, LOM
3.9	Develop and implement a procedure for segregation of hazardous waste during collection as per contracts and storage as part of LOM. Develop a waste acceptance procedure that includes the criteria for acceptance, waste inspection, staff training and knowledge level, handling difficult wastes including odorous wastes and quarantine requirements	Disposal of hazardous waste Waste acceptance	EBRD PR3	LMC, contractor	Development: Prior to start of construction; Implementation: During construction and operation	CCMP, LOM
4.0	Ensure that all hazardous waste from temporary storage facility located at the landfill is sent to an appropriate final disposal facility	Disposal of hazardous waste	Landfill Directive EBRD PR3	LMC, contractor	During landfill operation and closure	LCAM, contracts with authorised companies
4.1	Include energy efficiency requirements in tender	Energy efficiency	EBRD PR3	PIU, LMC	During preparation of	Tender dossiers,

	specifications for procurement of all equipment (engines, pumps, lamps, heating, insulation), vehicles and machinery, as well as equipment for landfill gas collection and utilisation (as per special feasibility study)				tender specifications/dossiers	LOM, annual reports
4.2	Consider and minimise visual impact from main road and adjacent areas (paint structures to fit the surrounding environment, bury any cables or lines on the site, use non-reflective paints and coatings, ensure minimum lighting required for safety and security, maintain a minimum area with open waste, plant vegetation, keep equipment and site tidy, establish final cover similar to surrounding landscape features)	Visual impact of landfill	EBRD PR2	PIU, consultant, contractor	During landfill construction, operation and aftercare	Tender dossiers, LOM, LCAM, annual reports
4.3	Ensure pleasant colours and maintenance of waste containers, collection points (including bring banks), collection trucks and operator uniforms/PPE	Visual impact of waste collection operations	EBRD PR2	LMC, contractor	During procurement and operation of waste collection equipment	Procurement plan, contracts, annual reports
4.4	Include in tendering documents the requirement for contractors to prepare, communicate in advance and implement a Construction and Environmental Management Plan (CEMP) that includes a traffic management plan with appropriate traffic re-direction measures that are easily seen and easy to follow	Traffic disturbance	EBRD PR2	PIU, LMC, contractor	During preparation of tender specifications/dossiers and prior to commencement of the construction activities	Contracts, supervision reports
4.5	Taking into consideration the views of the communities and customers, men and women, plan and provide timely information and gradual roll-out of changes to achieve improvement of services starting from pilot areas and adjusted according to outcome of customer surveys carried out for evaluation of experience as part of ESMP	Changes in waste collection, transportation and disposal routines	EBRD PR4	PIU, PIU consultant, LMC, municipalities	During landfill construction	Roll-out plan, ESMP, evaluation reports
4.6	Notify the affected communities, adequately in advance, about the expected nuisance. Limit work activities to daylight working hours or as agreed with the local public and authorities. Reduce project traffic routing through community areas wherever possible. Limit vehicle speed to avoid nuisance within communities. These measures should form part of the CEMP	Noise, vibration and light nuisance during construction and operation	EBRD PR4	LMC, contractor	Prior to start of construction activities and as the Project routine during establishment and operation of the new regional waste management system	Tender dossiers, CCMP
4.7	Use containers with lids for collection of waste. Plan waste collection services for shortest possible storage of waste at collection points. Use closed vehicles during waste collection and transportation with container for leachate. Regularly empty the containers at dedicated leachate collection points. Washout vehicles and their substructure for reduce on road vehicle odour. Include control of odour in landfill risk	Odour Control	EBRD PR2	LMC, municipal waste collection contractors	During tenders for procurement of waste collection equipment and services and during operation phase of the Project as part of the Project routine	Tender dossiers, CCMP

	assessment					
4.8	Develop and implement procedures for protecting public health and safety (e.g. traffic management plan, fencing, drivers training program, pedestrian access and trespassing plan, road design and maintenance (include informing authorities / road users of any mud on public highways), slope stability, clean-up of spills, well visible signage, awareness-raising)	Community health, safety and security	EBRD PR4	LMC, contractors	To include in tender requirements, prepare prior to start of landfill construction activities, implement during construction and operation	Tender dossiers, CCMP
4.9	Restrict construction activities on the landfill site after closure	Community health, safety and security	EBRD PR4	PIU	During landfill aftercare	Long-term land use plan approved by local authorities
5.0	Develop and implement a Livelihood Restoration Plan (LRP) or Land Acquisition and Livelihood Restoration Plan (LALRP) (if applicable) in line with the LRF. See 5.1, 5.4 and 5.5.	Economic displacement / land acquisition	EBRD PR5	PIU, PIU consultant	Develop prior to start of construction activities, implement during construction works in case they restrict access to productive assets	Compensation procedure available and accessible, LALRP, ESMP
5.1	In cases where there is a loss of livelihood provide compensation or alternative source of income in accordance with the LRP or LALRP that has been developed in accordance with the LRF.	Economic displacement / land acquisition	EBRD PR5	PIU, consultant	Before and during construction	Compensation procedure available and accessible, LALRP, ESMP
5.2	Plan and carry out all the works as to avoid/minimise the displacements (both physical and economic)	Economic displacement / land acquisition	EBRD PR5	PIU, contractors	Plan prior to start of construction, implement during construction and operation	Tender dossiers, CCMP, ESMP
5.3	Inform potentially affected people in advance of any access restrictions	Economic displacement / land acquisition	EBRD PR5	PIU, contractors	Prior to any construction works start restricting access to productive assets	ESMP, CCMP
5.4	Identify alternative livelihood options for the waste pickers in accordance with the principles of the LRF and in consultation with the affected people and following a socio-economic survey	Economic displacement / land acquisition	EBRD PR5	PIU, consultant	Prior to start of construction activities	LALRP and ESMP
5.5	In cases where there is land acquisition, provide compensation in accordance with the LRF developed. Undertake the following steps: <ul style="list-style-type: none"> Identify land acquisition needs whether permanent or temporary Identify any formal and informal land owners and users Include all affected peoples in the entitlements matrix Provide compensation as per the principles in the LRF 	Economic displacement / land acquisition	EBRD PR5	PIU	In case any access through third party land or property is required or if within defined SPZ	LALRP and ESMP

5.6	Select optimal location of facilities, access routes and construction sites to minimise temporary or permanent use of land. For the selection of the two proposed waste transfer sites, a selection criteria should be developed that includes distance from sensitive receptors – residential, cultural and ecological, surface water courses, good transport links and minimal travel distances (from households and to the new Hrazdan landfill site), brownfield instead of greenfield etc, and the selected sites should be assessed against those criteria.	Economic displacement / land acquisition Wider E&S impacts	EBRD PR1, PR4 and PR5	PIU, contractor	Prior to start of construction activities	CCMP
5.7	Ensure clear delineation and fencing of landfill area and the SPZ for the new landfill. Ensure fencing is regularly inspected and in good repair at all times	Economic displacement / land acquisition Wider E&S impacts	EBRD PR1, PR4 and PR5	Contractor	During construction and afterwards	CCMP
5.8	Plan and carry out all the works as to minimise/avoid disturbance to any natural habitats. Include the same requirement in the tendering documents for contractors	Impacts on nature protected areas or any natural environment	EBRD PR6	PIU, contractors	Plan prior to start of construction activities. Include in tendering requirements. Implement during construction, operation and aftercare	Tender dossiers, CCMP
5.9	Plan and implement bird, pest and vermin monitoring and control measures as part of LOM	Impacts on nature protected areas or any natural environment	EBRD PR6	LMC, consultant	Planning: Prior to start of landfill operation; Implementation: during operation	LOM, ESMP
6.0	Develop and maintain (and require contractors to have established) a Chance Find Procedure	Awareness of cultural heritage	EBRD PR8	PIU, consultant	Develop prior to excavation activities, maintain during soil excavation	CCMP
6.1	Enhance awareness of Company employees and contractors of cultural heritage protection rules and procedures, including a Chance Find Procedure. Ensure that foremen and others are trained in following it	Awareness of cultural heritage	EBRD PR8	PIU, LMC	As part of the training program before construction and throughout Project duration	CCMP, LOM
6.2	Implement SEP for the Project and appoint a Community Liaison Officer (CLO) with the appropriate qualifications and skills in line with the SEP.	Meaningful consultation	EBRD PR10	PIU, Company, consultant	On annual basis throughout the Project duration	SEP
6.3	Prepare and implement a program for raising public awareness and changing behaviour on the following issues: new regional waste management system, waste tariffs for households and other customers, protection of water bodies and irrigation systems from waste dumping and littering, collection of recyclable	Public outreach program as part of SEP	EBRD PR10	PIU, consultant	Prepare prior to start of operation, implement during landfill operation	SEP including public outreach program in place, ESMP

	waste fractions, management of construction and demolition waste, chemicals, asbestos containing materials.					
6.4	Collect and review updated information on tourism infrastructure development projects and/or other development projects, consider cooperation (coordination, co-financing) opportunities	Coordination with other projects	-	PIU, LMC, consultant	Prior to start of construction activities and as part of ESMP during construction and operation of landfill	ESMP
6.5	Maintain the grievance mechanism in the SEP for customers and other stakeholders. Provide the response in writing within 10 working days. Keep records, carry out internal reviews and report to the EBRD and the public on the grievances and response, protecting the privacy of individuals.	Grievance mechanism for customers and other stakeholders	EBRD PR10	PIU, LMC, consultant	Throughout the Project duration, as per SEP	SEP, ESMP
6.6	Require availability of a grievance mechanism in the contractor organisations	Grievance mechanism for contractors	EBRD PR10	PIU, contractor	Include requirements during tendering, ensure compliance during contractor works, as per SEP	Tender dossiers, SEP, CCMP
6.7	Implement regular contractor inspections / audits and meetings with contractors at least annually to review compliance and advise on corrective actions	Minimise Health and Safety risks Reduce injuries	Best practice EBRD PR2	PIU, PIU consultants	During construction phase	Audit reports
6.8	Obtain environmental license and construction permit from the Armenian State Authorities prior to construction of the new Landfill	Compliance with National legislation	EBRD PR3	PIU, PIU consultants	Prior to construction starting	Permits and licenses
6.9	Develop a labour accommodation strategy and principle document designed to meet EBRD / IFC standards and include a workers code of conduct	Standardise accommodation and minimise influx impacts	EBRD PR 2	LMC and Contractors	Prior to construction	Labour accommodation strategy document
7.0	Develop litter control measures to manage accumulation and escape	Litter prevention	Landfill Directive EBRD PR 3	LMC	Prior to construction	Litter control measures