Arrangement of storm-water drainage system in Zemo Omalo, Akhmeta Municipality, Tusheti

Environmental Management Plan

WORLD BANK FINANCED

Regional Development Project

Tbilisi, Georgia

June 2016

Environmental and Social Screening and Classification

This Sub-project is part of Regional Development Project and envisages arrangement of the storm water drainage system in the central square of the village Zemo Omalo. The SP site is 195 km away from Tbilisi. Village Zemo Omalo belongs to the Tusheti historical Region. According to territorial zoning, it belongs to Akhmeta Municipality. Zemo Omalo is a high-mountain (within the range of 1880-2000 meters altitude above the sea level) touristic center. In the summertime, the village is visited by a lot of tourists. Acccording to 2015 year census approximate number of tourists who visited Tusheti Region and subsequently Zemo Omalo amounted up to 25 000. Due to its location and multitude of historical monuments, Zemo Omalo has a considerable potential in terms of its formation and development as a However, during the rain in the village, water is flooding the central part of the village that creates huge puddles and mud, hence creating problems for the visitors and local population. Eventually, the subproject will make Tusheti region and Zemo Omalo more attractive for foreign and local visitors.

The subproject will contribute to the improvement of tourism-based economy through arrangement of the water drainage system in Zemo Omalo in order to collect rain and drained underground water, and discharge orderly from the village to the ravine.

SP envisages arrangement of the following:

- Concrete storm water channel with grid cover 0.6m (W)x0.9m(H) L=181m,
- Storm water network corrugated pipes DN300 and DN200 L=102m
- Storm water Collector Steel pipe Ø400mm – 66m; PE corrugated pipe Ø400 – 90m
- Storm water reinforced concrete manholes 8pcs.

(A) IMPACT IDENTIFICATION

Has sub-project a tangible impact on the environment?	The SP will have a modest short term negative environmental impact while its long term impact is expected to be positive.
What are the significant beneficial and adverse environmental effects of sub-project?	The SP will have a long term positive social and environmental impact as the village will be provided with storm water drainage system to avoid flooding during the rains that creates huge puddles and mud in the central part of the village, and creating problems for the visitors and local population. The SP is planned to be implemented on the territory adjacent to Tusheti Protected Landscape and Tusheti National Park. The works for arrangement of storm water drainage system will have a very low risk of impacts on the

	protected areas and flora species exiting on the territory of Tusheti National Park. Expected negative environmental impact is likely to be short term and typical for small and medium scale rehabilitation/construction works: noise, dust, vibration, and emissions from the operation of construction machinery; generation of construction waste. In course of construction activities and drainage system operation generation of solid (construction and domestic) and liquid waste is expected, which can cause contamination of the environment.
May the sub-project have any significant impact on the local communities and other affected people?	The long term social impact will be beneficial as the SP will play a very important role in terms of tourism and local business development in Tusheti region through improvement of landscape and infrastructure in Zemo Omalo. SP implementation will create temporary/permanent employment opportunity for local population and increase their incomes. No land or other types of resettlement is expected. Disturbance of the village Zemo Omalo residents and visitors in course of construction activities. Negative impact is short term and limited to the construction site. They are related to the possible disturbance described above.

(B) MITIGATION MEASURES

Were there any alternatives to the sub-project design considered?	As the project envisages the arrangement of the water drainage system using mainly the standard building technology with the addition of the place specific components, no important alternatives have been considered. Due to the natural constraints and based on the aim of preserving the local appearance of surroundings, only one technological option from the technical point of view was feasible.
What types of mitigation measures are proposed?	The expected negative impacts of the construction phase can be easily mitigated. The contractor will be responsible for the waste disposal at the permitted location, use the quarry materials from the licensed quarries only or obtain materials

	only from licensed providers, prevent water and soil from pollution (fuel spills due to equipment failure, concrete spills etc.,), avoid disturbance of population (noise, dust, emissions) through proper work/supplies scheduling, good maintenance of the construction machinery, etc. If necessary, Topsoil will be stripped, stored appropriately and used for reinstatement and landscaping. Through implementation of relevant protective measures during construction activities SP will not affect adversely the Tusheti protected landscape
What lessons from the previous similar projects have been incorporated into the sub-project design?	MDF have wide experience of implementation of medium and large scale rehabilitation and construction sub-projects financed by various donor organizations. Based on lessons learned from previous projects, design envisages arrangement of closed concrete storm water channels covered with grids instead of arrangement open storm water channels.
Have concerned communities been involved and have their interests and knowledge been adequately taken into consideration in sub-project preparation?	The SP has been developed by MDF in consultations with Akhmeta municipality government and affected communities, and as a response to the current situation Interest and knowledge of local municipality were taken into consideration during the SP planning process. SP-specific EMP will be made available for Zemo Omalo community and will be discussed in a consultation meeting prior to the commencement of works.

(C) CATEGORIZATION AND CONCLUSION

Based on the screening outcomes,
subproject is classified as environmental Category

- A ☐
- B ☒
- C ☐

Conclusion of the environmental screening:

1. Sub-project is declined ☐
2. Sub-project is accepted ☒

If accepted, and based on risk assessment, subproject preparation requires:

1. Completion of the Environmental Management Checklist for Small Construction and Rehabilitation Activities ☒
2. Environmental Review, including development of Environmental Management Plan ☐

Social and Cultural Resource Screening of Subprojects

	Social safeguards screening information	Yes	No
1	Is the information related to the affiliation and ownership status of the subproject site available and verifiable? (The screening cannot be completed until this is available)	✓	
2	Will the project reduce other people's access to their economic resources, such as land, pasture, water, public services or other resources that they depend on?		✓
3	Will the project result in resettlement of individuals or families or require the acquisition of land (public or private, temporarily or permanently) for its development?		✓
4	Will the project result in the temporary or permanent loss of crops, fruit trees and Household infra-structure (such as granaries, outside toilets and kitchens, etc.)?		✓
If answer to any above question (except question 1) is "Yes", then OP/BP 4.12 Involuntary Resettlement is applicable and mitigation measures should follow this OP/BP 4.12 and the **Resettlement Policy Framework**			
	Cultural resources safeguard screening information	**Yes**	**No**
5	Will the project require excavation near any historical, archaeological or cultural heritage site?		✓
If answer to question 5 is "Yes", then **OP/BP 4.11 Physical Cultural Resources** is applicable and possible chance finds must be handled in accordance with OP/BP and relevant procedures provided in the **Environmental Management Framework**.			

Environmental Management Plan

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE			
Country	Georgia		
Project title	Regional Development Project		
Sub-Project title	Arrangement of storm-water drainage system in Zemo in Omalo		
Scope of site-specific activity	SP envisages arrangement of storm-water drainage system in Zemo Omalo**.** SP envisages arrangement of grid covered storm water channels with dimension of 0,6X0,9(h) on both sides of the central square . Perforated drainage pipes are connected to channels which will be connected to collector manhole near church, from where will be continued on unpaved damaged road. Pipe Sections with diameter of 400mm will be laid on ground surface supported with concrete blocks on each 6 meter interval n=10, l=66 m. The last 90 m section pipe will be placed underground with 1.3 m depth. To grid covered manholes will be connected perforated drainage pipes, placed underground, to dry dump area downside the settlement. Eventually, drainage water will be discharged to natural storm water ravine. The works under the SP includes arrangement of : • Concrete storm water channel with grid cover 0.6m (W)x0.9m(H) L=181m, • Storm water network corrugated pipes DN300 and DN200 L=102m • Storm water Collector Steel pipe Ø400mm – 66m; PE corrugated pipe Ø400 – 90m • Storm water reinforced concrete manholes 8pcs.		
	Task Team Leader: Rosanna Nitti	Safeguards Specialist: Darejan Kapanadze	
Implementation arrangements (Borrower)	Implementing entity: Municipal Development Fund of Georgia	Works supervisor: JV Steget (Italy) & Estia (Italy)	Works contractor: (tbd)
SITE DESCRIPTION			
Name of institution whose premises are to be rehabilitated	Akhmeta Municipality		

Address and site location of institution whose premises are to be rehabilitated	Omalo Tel: +(995 349) 22 15 42 E-mail: axmeta_gamgeoba@yahoo.com SP site is located in village Omalo, Tusheti Region Akhmeta Municipality. Distance from Tbilisi is 272 km.
Who owns the land? Who uses the land (formal/informal)?	For construction activities will be used land plot which is under municipal ownership.
Description of physical and natural environment around the site	The SP site is located in the historical village Zemo Omalo, in Tusheti, Akhmeta municipality. According to territorial zoning, it belongs to Akhmeta Municipality, Kakheti region, Georgia. SP will be implemented in a high-mountain (within the range of 1880-2000 meters altitude above the sea level) area having a considerable potential in terms of its formation and development as a touristic and recreational center. It lies between the Greater Caucasus Mountain Range and the Pirikita Range of Tusheti. Due to its high mountain location (1880 meters above sea level) on the northern slopes of the Greater Caucasus Mountain Range and the absence of well-maintained roads, region was largely isolated from the rest of Georgia for most of the year. The only access road is through the Abano-Pshaveli-omalo motor road that passes at 2,850 meters above sea level. Distance from Akhmeta to Omalo is 90 km. Village Zemo Omalo, as well as the other villages of Tusheti mountainous region due to its hard climate and living conditions, is abandoned by the local residents and there are no permanent residents. The owners of the houses visit their historical living places in summertime. In recent years, region is visited by quite a lot of tourists, but due to its location and climate conditions touristic season covers only summertime (start in late June and ends in the beginning of September). As of the year 2015 statistics, approximate number of Zemo Omalo inhabitants was up to 25 in winter period increasing up to 500 inhabitants for summer season, apart from that tourists amounted up to 25,000 including foreign and local visitors. There is missing power supply and wastewater discharge systems neither in Zemo Omalo nor in Tusheti Region. The population in most part utilizes solar helio - devices for obtaining hot water, and generates electric power by means of solar batteries. There is no municipal sewage system in Zemo Omalo. Population uses earth or concrete dry pit toilets. Waste water drains down earth canals and is freely released. **Climate** According to the climatologic data (Omalo data), in the vicinity of the road alignment the average annual temperature is + 3,50C. The absolute minimum is -36 C, the absolute maximum of + 31 C. The annual volume of precipitation is 748 mm. Snow cover weight is 110 KPa. 121 is the number of days with permanent snow cover. Standard depth of seasonal soil freezing for coarse-grained soil is 171 cm. Maximum wind

	velocity once in every 20 years - 18 m/sec. The prevailing wind direction is north and north-west. The existing road is located in the 9-point seismicity zone. **Geology and geomorphology** The both longitudinal gorges (Prikita and Gometsari Alazani valleys) of Tusheti, and Nakaicho-Makratela ridge are built of Jurassic slate. In several places, there are intensive accumulation of limestone travertine. Flora developed on the substrate like this is fairly peculiar and differs from the other flora species presented on the rest of areas. In the eastern part of Tusheti, the difference between altitudes is more than 2500 m; The lowest point is located at 1600 m level and the highest one - at 4275 m altitude above the sea level. The relic erosive plains are preserved In the areas of villages Shenako, Omalo and Diklo, adjoining the area of inflow of both Alazani rivers (Pirikita and Gometsari). **Tusheti Protected Landscape** - Tusheti Protected Landscape is located on the Akhmeta Municipality territory and its area is 27,903 ha. The Protected Landscape was established in **2003** and includes all villages exiting in Tusheti. This type of protected areas allow sustainable use of natural resources and development of eco-tourism in order to contribute towards conservation objectives and traditional agricultural sectors development. Tusheti protected landscape is distinguished by charming historical villages of Tusheti. There are preserved unique cultural heritage monuments, villages, folk-art patterns, agricultural tools and household items in these villages. Spectacularly Tusheti varies from other protected areas, because here natural monuments are combined with historical and cultural buildings, traditions, rites and customs. Protected landscape is managed by the Administration established by a local Municipality, which governs the area in cooperation with the Agency of Protected Areas. **Tusheti National Park —** The park established in 2003 and occupies an area of 83007 hectare. It is located in the eastern part of the Caucasus, in Tusheti depretion, at an altitude of 900-4800 meters. There are preserved alpine meadows, glaciers and river outfalls, some important cenoses, rare and endangered animal species and endemic relics plant species in the Tusheti national park, also, the unique pine forest and the represented foresting species - birch, high-mountain oak, mountain ash, sallow.

	Tusheti National Park is managed by Tusheti Protected Areas Administration.
Locations and distance for material sourcing, especially aggregates, water, stones?	Water will be available at the construction site from the local water supply system. Distance to the nearest licensed borrow pit is approximately 72 km
LEGISLATION	
National & local legislation & permits that apply to project activity	The SP has been classified as low risk Category B according to the WB policies and the ESMF. The SP proposal has been officially presented to the MDF by local municipality for financing and represents the need and priority of the Municipal Government according to common demands. In compliance with Georgian legislation arrangement of storm water drainage system does not require any type of environmental review, approval, or permitting for the SP. Though according to the national regulatory system: (i) construction materials must be obtained from licensed providers, (ii) if contractor wishes to open quarries or extract material (rather than purchasing these materials from other providers), then the contractor must obtain licenses for extraction, (iii) if contractor wishes to operate own concrete plant (rather than purchasing these materials from other providers), then the contractor must prepare technical report on inventory of atmospheric air pollution stationary source and agree with Ministry of Environment and Natural Resources Protection (MoENRP); (iv) Permanent placement of the cut ground generated in the course of earth works in a selected location must be approved by local (municipal) governing bodies in written; (v) Permanent placement of the inert material (cut ground and sedimentary soil) generated in the course of earth works in a selected location must be approved by local (municipal) governing bodies in written; (vi) If over 200 tons of nonhazardous waste or over 1000 tons of inert materials or any volume of hazardous waste is generated annually as a result of contractor's activities, they shall prepare and cause the Ministry of Environment and Natural

	Resources of Georgia to approve the Waste Management Plan for the Company, appoint an environmental manager, and submit an information on his/her identity to the Ministry of Environment and Natural Resources of Georgia in accordance with requirements of the "Waste Management Code". Copies of extraction licenses (if applicable), permits for operating concrete plant (if applicable) and waste disposal permits will be attached to this EMP once the contractor is selected and mobilized to the works site. GOST and SNIP norms must be adhered.
PUBLIC CONSULTATION	
When / where the public consultation process will take /took place	EMP will be discussed with beneficiary community prior to the commencement of works.
ATTACHMENTS	
Attachment 1: Site location and photos Attachment 2: Documents on the public consultation (to be provided) Attachment 3: Agreement on waste disposal (to be provided) Others as required.	

PART B: SAFEGUARDS INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
	Activity/Issue	**Status**	**Triggered Actions**
Will the site activity include/involve any of the following?	A. Building rehabilitation	■ Yes [ ] No	See Section **A** below
	B. New construction	■ Yes [ ] No	See Section **A** below
	C. Individual wastewater treatment system	[ ] Yes ■ No	See Section **B** below
	D. Historic building(s) and districts	■ Yes [ ] No	See Section **C** below
	E. Acquisition of land[1]	[ ] Yes ■ No	See Section **D** below
	F. Hazardous or toxic materials[2]	[ ] Yes ■ No	See Section **E** below
	G. Impacts on forests and/or protected areas	[ ] Yes ■ No	See Section **F** below
	H. Handling / management of medical waste	[ ] Yes ■ No	See Section **G** below
	I. Traffic and Pedestrian Safety	■ Yes [ ] No	See Section **H** below

[1] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred 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

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
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 and/or rehabilitation (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 Rehabilitation and /or Construction Activities	Air Quality	(a) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust; (b) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (c) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust (d) There will be no open burning of construction / waste material at the site (e) There will be no excessive idling of construction vehicles at sites (f) Truck loads should be confinement and protected with lining.
	Noise	(a) Limit activities to daylight working hours; (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 (c) The machinery should move only along the preliminarily agreed route; (d) The maximum allowed speed should be restricted; (e) Proper technical control and maintenance practices of the machinery should be applied; (f) No-load operations of the vehicles and heavy machinery is not allowed. Proper mufflers will be used on machinery.
	Water Quality	(a) Contractor will be required to organize and cover material storage areas and to isolate wash down areas from watercourses by selecting areas that are not free draining into any watercourse. The material storage sites should be protected from washing out during heavy rain falls and flooding through covering by impermeable materials. (b) Contractor will plan all excavations, topsoil and subsoil storage so as to reduce to a minimum any runoff. (c) 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. (d) Revision of vehicles will be required to ensure that there is no leakage of fuel and lubricating materials. All machinery will be maintained and operated such that all leaks and spills of materials will be minimised. Daily plant checks (Vehicle Maintenance Procedure) will be undertaken to ensure no leaks or other problems are apparent. Vehicle maintenance, cleaning, degreasing etc will be undertaken in designated areas, of hard-standing, not over made ground. Maintenance points will not be located within 50m of any watercourse.

		(e) Lubricants, fuel and solvents should be stored and used for servicing machinery exclusively in the designated sites, with adequate lining of the ground and confinement of possible operation and emergency spills. Spill containment materials (sorbents, sand, sawing, chips etc.) should be available on construction site. (f) Wet cement and/or concrete will not be allowed to enter any watercourse, pond or ditch. (g) Upon completion of washing and disinfection of water reservoir and water pipe the disinfection solution will be neutralized by the contractor prior to release to the environment – to avoid damage to terrestrial or aquatic organisms. In the case of disinfection via chlorination this is achieved by application of a reducing agent, such as sodium bisulfate to achieve de-chlorination. The reducing agent, in turn, must be applied by the contractor at the precise dosage to neutralize the disinfectant – but no more, since reducing agent residuals are also detrimental to aquatic ecosystems. Releasing of neutralized water to the environment by the contractor will be agreed with the local municipality.
	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 on the agreed location. (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Burning of waste on the SP site is forbidden. (f) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
	Material supply	a) Use existing plants, quarries or borrow pits that have appropriate official approval or valid operating license. b) Obtain licenses for any new quarries and/or borrowing areas if their operation is required; c) Reinstate used sections of quarries and/or borrowing areas as extraction proceeds on or properly close quarries if extraction completed and license expired; d) Obtain wood materials only from licensed suppliers. e) Contractor will be required to submit to the MDF copies of the licenses, permits, written agreements, certificates, etc. to prove that all materials are obtained from licensed providers. f) Haul materials in of peak traffic hours; g) Place speed regulating, diverting, and warning signs for traffic as appropriate.
	Earthworks	h) Topsoil should be stripped before starting of earthworks; i) Proper topsoil storage practice should be applied to ensure to maintain physic-chemical and biological activity of the soil; Temporary protective silt fencing should be erected to avoid erosion (wash down); j) Stored topsoil should be used for reinstatement and landscaping. k) Topsoil from the sites, which will not be reinstated to the initial conditions will be distributed carefully on the surrounding area. l) Topsoil will be reinstated separately from subsoil, with care taken to avoid mixing of the materials. The topsoil reinstatement will be sufficient to restore the fertile depth to the initial conditions as judged by the topsoil strip during visual observation and comparison of the reinstated site and adjacent land. When replacing the topsoil Contractor will program the works such that the areas furthest away from the stockpiles are reinstated first with reinstatement getting progressively closer to the stockpiles, thus reducing the number of vehicle movements over the reinstated topsoil. The reinstated topsoil will then be harrowed, where practical, to protect the stability and promote vegetative growth. m) In case chance find is encountered in the course of earth works, the contractor must immediately stop any physical activity on site and informs the MDF. The MDF promptly notifies the Ministry of Culture and Monument Protection,

		which takes over responsibility for the following course of action. Works may resume only upon receipt of written permission from the Ministry of Culture and Monument Protection.
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. a) 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.
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 ▪ Construction site should be fenced and properly secured to prevent unauthorized access (especially of children); ▪ Appropriate lighting and well defined safety signs should be provided; ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement

PART D: MONITORING PLAN

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
CONSTRUCTION PHASE						
Supply with construction materials	Purchase of construction materials from the officially registered suppliers	In the supplier's office or warehouse	Verification of documents	During conclusion of the supply contracts	To ensure technical reliability and safety of infrastructure	MDF, Construction supervisor
Transportation of consrtruction materials and waste Movement of construction machinery	Technical condition of vehicles and machinery; Confinement and protection of truck loads with lining; Respect of the established hours and routes of transportation	Construction site	Inspection	Unannounced inspections during work hours and beyond	Limit pollution of soil and air from emissions; Limit nuisance to local communities from noise and vibration; Minimize traffic disruption.	MDF, Construction supervisor, Traffic Police
Earthworks	Temporary storage of excavated material in the pre-defined and agreed upon locations; Backfilling of the excavated material and/or its disposal to the formally designated locations; In case of chance finds immediate suspension of works, notification of the Ministry of Culture and Monument Protection, and resumption of works exclusively upon	Construction site	Inspection	In the course of earth works	Prevent pollution of the construction site and its surroundings with construction waste; Prevent damage and loss of physical cultural resources; Prevent topsoil losses.	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	formal consent of the Ministry. Topsoil is striped before starting of the earthworks; Proper topsoil storage practice is applied; Temporary protective silt fencing is erected; Striped topsoil is used for reinstatement and landscaping.			Construction period: starting from topsoil stripping and ending with reinstatement		
Sourcing of inert material	Purchase of material from the existing suppliers if feasible; Obtaining of extraction license by the works contract and strict compliance with the license conditions; Terracing of the borrow area, backfilling to the exploited areas of the borrow site, and landscape harmonization; Excavation of river gravel and sand from outside of the water stream, arrangement of protective barriers of gravel between excavation area and the water stream, and no entry of machinery into the water stream.	Borrowing areas	Inspection of documents Inspection of works	In the course of material extraction	Limiting erosion of slopes and degradation of ecosystems and landscapes; Limiting erosion of river banks, water pollution with suspended particles and disruption of aquatic life.	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
Generation of construction waste	Temporary storage of construction waste in especially allocated areas; Timely disposal of waste to the formally designated locations	Construction site; Waste disposal site	Inspection	Periodically during construction and upon complaints	Prevent pollution of the construction site and nearby area with solid waste	MDF, Construction supervisor
Workers' health and safety	Provision of uniforms and safety gear to workers; Informing of workers and personnel on the personal safety rules and instructions for operating machinery/equipment, and strict compliance with these rules/instructions	Construction site	Inspection	Unannounced inspections in the course of work	Limit occurrence of on-the-job accidents and emergencies	MDF, Construction supervisor
OPERATION PHASE						
Generation of waste from maintenance of the storm water drainage system	Proper management of solid waste	Municipal area	Inspection	Throughout operation of the sport complex	Prevent pollution with solid waste	Akhmeta municipality
Disruption of traffic and pedestrian access during maintenance works	Scheduling of maintenance works in at less busy seasons and proper signage of maintenance area	along the arranged storm water drainage system	Inspection	Throughout operation of the systems	Minimize nuisance to local residents and visitors	Akhmeta Municipality

Attachment 1: Site location and pictures

Map 1: Site Visualization through the google map

Center of the village Zemo Omalo (dump area)

Center of the village Zemo Omalo (dump area)

Discharging water from the village to ravine

Discharging water from the village to ravine