

ANNEXURE -xx TO TERMS AND CONDITIONS OF CONTRACT **(Environmental and Social Management Plan (ESMP))**

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The Contractor shall implement the Environmental and Social Management Plan in line with ESMF for MMGSY project by R&BD-GOG as integral part of the scope of works.

ESMP forms express part of the Bid Document and eventually the Contract. The aspects given in ESMP are mandatory in nature and thus, the Contractor is contractually bound to abide by the same relevant to the “Contractor” under the strict supervision, guidance and instructions of the Engineer-In Charge.

It is to reiterate that the costs associated with carrying out the requirements of the ESMP are very much part of the scope of works and explicitly as incidental to the works therefore, no excuses towards non-compliance during construction shall be entertained. The Engineer-In-Charge shall regularly monitor the compliance of ESMP by the Contractor. The Contractor shall regularly monitor the implementation of ESMP.

2.1 Nonconformity of ESMP

1. The Contractor shall implement all mitigation measures for which responsibility is assigned to him as stipulated in the ESMP. Any lapse in implementing the same will attract the damage clause as detailed below:

- All lapse in obtaining clearances / permissions under statutory regulations and violations of any regulations with regard to eco-sensitive areas shall be treated as a major lapse
- Any complaints of public, within the scope of the Contractor, formally registered with the R&BD, Panchayat, Govt. of Gujarat and communicated to the Contractor, which is not properly addressed within the time period intimated by R&BD, Panchayat shall be treated as a major lapse
- Non-conformity to any of the mitigation measures stipulated in the ESMP Report (other than stated above) shall be considered as a minor lapse
- On observing any lapses, Executive Engineer R&BD (Panchyat), Govt. of Gujarat or his representative shall issue a notice to the Contractor, to rectify the same
- Any minor lapse for which notice was issued and not rectified, first and second reminders shall be given after ten days from the original notice date and first reminder date respectively. Any minor lapse, which is not rectified, shall be treated as a major lapse from the date of issuing the second reminder.
- If a major lapse is not rectified upon receiving the notice Executive Engineer R&BD (Panchyat), Govt. of Gujarat or his representative shall invoke reduction, in the subsequent interim payment certificate.
- For major lapses, 10% of the interim payment certificate will be withheld, subject to a maximum of 0.5% of the contract value
- If the lapse is not rectified within one month after withholding the payment, the amount withheld shall be forfeited.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

1.1 ESMP Table

2. The Environmental and Social Management Plan (ESMP) is prepared to cover all the project related activities that are to be implemented during the project pre construction, construction and post construction stages. The summary of the environmental and social management plan (ESMP) is presented in **Error! Reference source not found.** below “Environmental and Social Management Plan”.

Table 1-1: Environmental and Social Management Plan

Project Stage/Activity	Potential Negative Impacts	Mitigation Measures	Location	Responsible Agency	
				Implementation	Monitoring
A. Location					
Location of construction camps and contractor facilities	<ul style="list-style-type: none">• Inappropriate location such as close proximity to eco-sensitive zones, biodiversity hotspots and human settlements• Environmentally unsound use of community resources such as forestry products by workers	<ul style="list-style-type: none">• Location of construction camps at least 500m away from community areas/religious structures, and away from drinking water sources (<i>refer Annexure – 1 OM – 1 Construction and Labour Camps</i>)• The construction camps shall be located at least 1000m (1km) away from eco-sensitive zones (the boundaries of the Community reserve, Biodiversity hotspots) and 500m away from the settlements.• The camps must be located such that the drainage from and through the camps shall not affect any domestic or public water supply.	Construction camp sites	Contractor	R&BD, Panchayat
Location of quarry sites	<ul style="list-style-type: none">• Location in unstable areas or in sensitive areas legally and otherwise	<ul style="list-style-type: none">• Only stable areas and existing or new government approved sites may be considered (<i>refer OM – 3 Quarry Management</i>)• Consent from GPCB (Consent to establish (CTE) and Consent to operate (CTO)) is required for stone crushers and quarry sites if setting up a new unit for this project,• In case sourced from third party then it shall be ensured that the construction materials are procured from approved/ licensed quarry sites and stone crushers	All parts of project area	Contractor	R&BD, Panchayat
Location of borrow pits	<ul style="list-style-type: none">• Location in unstable areas or on agricultural land	<ul style="list-style-type: none">• Location in area with stable soil and preferably away from agricultural land (<i>refer Annexure – 1 OM-2 Borrow Areas</i>)• The R&BD, Panchayat shall inspect every borrow area location prior to issuing approval for use of such sites.	All parts of project area	Contractor	R&BD, Panchayat
Crushers, Hot-mix Plants & Batching Plants	<ul style="list-style-type: none">• Delays in processing clearances, causing delays in initiation of construction	<ul style="list-style-type: none">• Processing of clearances/permits on a timely basis and keeping in mind the time requirements for these clearances (<i>refer Annexure – 1 OM-7 Construction Plants & Equipment Management</i>)• The contractor shall follow all stipulated conditions for pollution control as suggested by the GPCB in the consent/ NoC for establishing and operating the Hot-mix and Batching Plant.	All camps or plant location	Contractor	R&BD, Panchayat
B. Construction					
Alignment / road passing through coastal region	<ul style="list-style-type: none">• Corrosion in reinforcement of road furniture, Sulphate attack on asphaltic surface and Blisters formation on road surface	<ul style="list-style-type: none">• Careful surface brooming of the base should be carried out to remove the salts before the bituminous surfacing is applied.• During Construction the Aggregates should be stored in a place away from moisture and in a dry place	Roads near / in close vicinity of coastal region	Contractor	R&BD, Panchayat

Establishment and shifting of construction camps	<ul style="list-style-type: none"> Deforestation and poaching by laborers Improper waste disposal Disturbance to aesthetic beauty Disturbance to nearby settlements Unfriendly use of community resources such as non-timber forestry products by construction workers Leaving dirty and waste material after shifting from one camp site to another 	<ul style="list-style-type: none"> Provision of cooking fuel to contractors' staff References to the illegality of cutting trees, hunting and fishing, and other prohibited activities in community areas to be included in contract documents Provision of proper waste disposal facilities and health & safety facilities Prior information to nearby communities of camp establishment Ensure clean area left behind when shifting camp 	All parts of project road	Contractor	R&BD, Panchayat
Stockpiling of construction materials	<ul style="list-style-type: none"> Obstruction of drainage, disturbance/ safety hazard to road users, etc Dust generation from stock pile area 	<ul style="list-style-type: none"> Due consideration shall be given for material storage and construction sites such that it doesn't cause Obstruction of drainage, disturbance/ safety hazard to road users, etc Stockpiles shall be covered to protect from dust and erosion 	All parts of project road	Contractor	R&BD, Panchayat
Removal of vegetation and uprooting of trees	<ul style="list-style-type: none"> Negative changes in micro-level wildlife habitat/environment Soil erosion Scarring of landscape 	<ul style="list-style-type: none"> Design shall be prepared to minimize the loss of avenue trees. If impacts on trees become unavoidable, compensatory tree plantation shall be carried out 	All parts of project road	Contractor	R&BD, Panchayat
Cutting of hill slope and earth removal from borrow areas	<ul style="list-style-type: none"> Soil erosion and landslides Scarring of landscape because of improper disposal of debris Dust pollution Disruption of local drainage Siltation in nearby water bodies and consequent negative effects on aquatic ecology Noise and disturbance to nearby communities 	<ul style="list-style-type: none"> Confine cutting activities to dry season (<i>refer OM-5 Slope Stability and Erosion Control</i>) Use standard method Disposal of debris at proper sites or reuse material for construction Proper restoration of borrow areas Provision of appropriate drainage structures/facilities Confine construction activities to daytime 	Hilly terrain and borrow areas	Contractor	R&BD, Panchayat
Quarrying / Borrow pits Operations	<ul style="list-style-type: none"> Landslides (rock slides/falls) Scarring of landscape Disturbance to wildlife and nearby communities from blasting 	<ul style="list-style-type: none"> Adequate safety precautions shall be ensured during transportation of quarry material from quarries to the construction site (<i>refer Annexure – 1 OM-2 Borrow area, OM-3 Quarry Management</i>). Vehicles transporting the material shall be covered to prevent spillage. Operations to be undertaken by the Contractor as per the direction and satisfaction of the R&BD, Panchayat/PMC All borrow areas shall be restored to the original condition, immediately upon completion of the use of such a source 	Quarry sites	Contractor	R&BD, Panchayat
Crushing of stone and transport of stone/materials	<ul style="list-style-type: none"> Dust pollution affecting construction laborers and local vegetation Air pollution from machinery and vehicle exhausts Noise pollution and disturbance to nearby wildlife and communities 	<ul style="list-style-type: none"> Water sprinkling of stone crushing site Proper covers for vehicles transporting stone and materials Regular maintenance of machinery and vehicles Confine stone crushing and transportation activities to daytime 	Stone crushing sites and all parts of project road	Contractor	R&BD, Panchayat
Road surfacing activities	<ul style="list-style-type: none"> Air pollution from smoke and gaseous emissions affecting health of workers 	<ul style="list-style-type: none"> Provide masks to workers exposed to dust and smoke Manage movement of vehicles during road surfacing work 	All parts of project road	Contractor	R&BD, Panchayat
Construction of line and cross drainage structures and bridges	<ul style="list-style-type: none"> Disruption of local stream/river courses and aquatic hydrology Increased sediments in rivers or streams 	<ul style="list-style-type: none"> Provision of appropriate drainage facilities and river/stream diversion structures (item to be included in BOQ) 	All parts of project road	Contractor	R&BD, Panchayat

Operation of machinery and equipment and general activities of laborers	<ul style="list-style-type: none"> Spillage/ leakage of chemicals and oil and contamination of soil and water resources Injury to workers/others Respiratory problems from dust and machinery emissions Hearing problems due to high level of noise 	<ul style="list-style-type: none"> Proper storage and handling of chemicals and oil (<i>refer Annexure – 1 OM-7 Construction Plants & Equipment Management</i>) Provision of workers with construction hats, face masks, earplugs, gloves, etc. Provision of well-equipped first aid kits and health facilities at construction camp and work sites 	All parts of project road	Contractor	R&BD, Panchayat
Water sourcing for domestic usage or construction work	<ul style="list-style-type: none"> Misuse of community water resources 	<ul style="list-style-type: none"> Independent arrangements to be made for water requirements so that supplies to nearby communities remains unaffected (<i>refer Annexure – 1 OM-4 Water for Construction & refer Annexure 2 NoC format for water resource</i>) 	Construction camps	Contractor	R&BD, Panchayat
Material Handling at Site	<ul style="list-style-type: none"> Exposure of workers to dust and heat Worker's safety in handling and storage of material 	<ul style="list-style-type: none"> All workers employed on mixing asphaltic material, cement, lime mortars, concrete etc., shall be provided with protective footwear and protective goggles (<i>refer Annexure – 1 OM-8 Labour and Worker's Health and Safety</i>). Workers, who are engaged in welding works, shall be provided with welder's protective eye-shields. Workers engaged in stone breaking activities shall be provided with protective goggles and clothing and shall be seated at sufficiently safe intervals. 	All parts of project road	Contractor	R&BD, Panchayat
Disposal of Construction Waste / Debris / Cut Material	<ul style="list-style-type: none"> Location impacts (including change in topography, landscaping etc.,) 	<ul style="list-style-type: none"> The waste generated shall be reused in the construction activities to the maximum extent possible. Cut and fill material shall be balanced so as not to have requirement for disposal. Remaining material if any shall be disposed off safely at the disposal sites (<i>refer Annexure – 1 OM-6 Waste Management and Debris Disposal</i>). Safe disposal of the extraneous material shall be ensured in the pre-identified disposal locations. In no case, any construction waste shall be disposed around the sub-project locations indiscriminately. Cut material generated because of cutting of slopes shall be utilized for construction of retaining walls, embankments and as filling material. 	All parts of project road	Contractor	R&BD, Panchayat
Safety Measures During Construction	<ul style="list-style-type: none"> Accident impacts 	<ul style="list-style-type: none"> Personal Protective Equipment (PPE's) for workers on the project and adequate safety measures for workers during handling of materials at site shall be taken up (<i>refer Annexure – 1 OM-8 Labour and Worker's Health and Safety</i>) The contractor has to comply with all regulations regarding occupational health and safety 	All parts of project road	Contractor	R&BD, Panchayat
Chance finds of archaeological Property / remains	<ul style="list-style-type: none"> Damage to archaeological Property / remains in the performance of project activities 	<ul style="list-style-type: none"> The Contractor shall immediately upon discovery of a chance find of archaeological Property / remains stop the work and inform R&BD, Panchayat/PMC of such discovery and carry out the R&BD, Panchayat/PMC instructions for dealing with the same, awaiting which all work will be stopped The R&BD, Panchayat/PMC shall seek direction from the Archaeologist at the Department of Archaeology before instructing the Contractor to recommence work on the site. 	All parts of project road	Contractor	R&BD, Panchayat