PROJECT: MANZINI TO MBADLANE (MR3) HIGHWAY PROJECT

THE KINGDOM OF SWAZILAND

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN SUMMARY AND ABBREVIATED RESETTLEMENT ACTION PLAN SUMMARY

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ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN SUMMARY

Project Title: Manzini to Mbadlane (MR3) Highway Project

Project Number: P-SZ-DB0-013

Country: Kingdom of Swaziland

Department: OITC **Division:** OITC 2

1 Brief description of the project and key environmental and social components

1.1 Project Description:

1.1.1 The Manzini-Mbadlane Road Highway Project comprises the dualisation of a 30km section between the city of Manzini and Mbadlane on Main Road 3 (MR3). The project involves dualisation from existing two-lane single carriageway to two-lane dual carriageways with controlled or limited access to local traffic. The project will significantly improve the functionality of the road infrastructure to accommodate increasing commercial traffic servicing economic and industrial centres and intra-regional trade traffic between neighbouring Mozambique and South Africa. The section under consideration traverses urban, semi-urban and rural environments and terminates at the new Sikhuphe International Airport near Mbadlane. The current land use along the route consists of urban residential with some commercial, agricultural farming, cattle ranching and smallholdings interspersed with some commercial enterprises; private farms with cattle ranching, private smallholdings and Swazi Nation Land.

1.2 The project components

Table 1

	COMPONENT NAME	COMPONENT DESCRIPTION
1	Civil works	Dualisation of existing 30km main carriageway and construction of 32km service and access road respectively, with associated infrastructure, utilities and services including ICT ducting; sensitisation and implementation of environmental and social measures.
2	Consultancy services	Comprise: (i) design review, pre-construction services, construction supervision; (ii) financial audit services; (iii) Technical audits; (iv) independent road safety audits.
3	Resettlement and Compensation	Resettlement and compensations of 75 PAPs. (See attached Annex 1, ARAP Summary)
	Implementation of ESMP	Implementation of environmental measures and social sensitisation/awareness programmes on health, gender; and road safety.
4	Axle Load Control (weighbridge)	Construction of weighbridge and deployment of axle load control operational procedures.
5	Technical Assistance	Establishment and institutionalisation of the Roads Authority and the Road Fund; (ii) Training of MPWT personnel; (iii) Project management support to the project team.

1.3 1.3 Project's existing Environment:

Physiography

1.3.1 The route is situated in the Swaziland middle-veld between the escarpment and the Lubombo Mountains.

Climate

1.3.2 The project area is characterized by a sub-tropical climate with summer rains. The mean minimum temperatures vary from 9ºc to 19ºc and the mean maximum temperatures range from 22ºc to 28ºc.

Hydrology

1.3.3 The drainage along the route is generally away from the road, which is situated along the watershed between the Mbuluzane River which runs northeast from the Lutfontja Hills and the Sidvokodvo and Mzimphofu Rivers which run south and southeast from the existing road. At some points the route crosses the headwaters of tributaries of the Mbuluzane and Mzimphofu Rivers.

Geology

1.3.4 Published geological mapping indicates that the underlying geology along the route will comprise mainly of Ngwane Gneiss.

Soils

1.3.5 In summary, the soils found in this area occur mainly as dark red, dark reddish orange, dark olive and pale green clayey and sandy silts. Where tested these soils were generally of G8 quality and of low to intermediate plasticity; however the completely weathered soils in test pits 14 and 19 were found consist of clay of high plasticity with corresponding high swell characteristics resulting in the classification reducing to less than G10.

Flora and Fauna

1.3.6 The natural vegetation of the study area has been extensively altered by industrialization due to past construction activities, new developments and maintenance works Vegetation consists mainly of middleveld vegetation, which is broad leaf tree and shrub savannah and tends to be "more open veld type with patches of short forest and shrubs persisting". Most of the vegetation is found in riverine areas. There are protected species including *Aloe Marluthi, Phoenix reclinata*. Fauna along the proposed alignment consist of urban survivors due to extensive human presence. The birds are common woodland species such as *Streptopelia senegalensis, Halcyon senegalensis, etc.* Herpetofauna include *Naja mossambica, Varanus niloticus and Breviceps adspersus.*

Air Quality, Aesthetics, Cultural and Archaeological Resources

1.3.7 The quality of air is considered good because there are no emitting manufacturing industries found along the proposed alignment. The area has no cultural and archaeological resources worth preservation.

Socio-economic Environment

1.3.8 The road forms the major east - west strategic link between the major cities of Mbabane, Manzini, the major industrial area of Matsapha and the Lomahasha and Mhlumeni border posts with Mozambique in the north-east and Lavumisa on the South African border in the south-east.

The proposed road will transverse two socially distinctive settings i.e., urban and rural settings. At its starting point in Manzini, this is an urban area until Hhelehhele. A great portion of this land is under the jurisdiction of the Manzini City Council and the land is owned through Title Deed Land (TDL). From Hhelehhele to Mafutseni, the road passes through farms both privately owned and government owned. The last portion is through a rural setting and is under traditional authorities mainly Mafutseni (under Chief Ngalonkhulu Mabuza) and Malindza (under Chief Sipho Tsabedze).

2 Major environmental and social impacts

2.1 Location of temporary construction camps, storage areas and site offices will result in soil erosion; pollution; loss of vegetation and bio diversity; social disruption; health and safety risks and waste generation. Borrow pits and location of spoil sites will in addition to the mentioned impacts add to loss of certain habitats for some animal species; sanitation risks; dust and noise and visual impacts. Land acquisition will be the one long-term irreversible impact of the project. Service disruption with regard to use of the road, water services and cattle crossings will also happen. Water quality deterioration and drainage are likely to emanate as well. Air quality in terms of dust generation may also become a significant impact and aesthetics during construction due to storage of machinery and materials. Noise and traffic issues may become significant impacts as well. Certain changes to the socio-economic conditions will emanate due to creation of employment; but also an influx of people into construction areas will be competing for services. The influx is likely to impact negatively on health issues such as HIV/AIDS, safety issues will also arise including the chance of criminal elements; sanitation related health issues and labour and social conflicts.

3 Enhancement and mitigation program

Mitigation has been recommended to minimize the above-named negative impacts while enhancing the positive ones. These are summarised below

3.1 Impact on Land Use

Table 2

IMPACTS	MITIGATION
Impact on Land Issues	**House Relocation and Compensation** MoWPT to confirm the legal outspans of the road in consultation with the business/residential owners. MoWPT to peg this road as soon as the alignment has been confirmed. To ensure compensation of all property owners fully for loss of land with no gender bias after consultations and negotiations conducted in good faith by both parties (affected and proponent) before construction commences according to the land values given by the Valuator In case of disagreements the issues must be referred to an Independent Arbitrator. The proponent and property owners will agree on compensation terms by signing letters of acceptance. Compensation will be effected prior to road construction. **Loss of Crops and Trees** The market value of all crops and trees to be affected by the project will be assessed and compensated prior to commencement of construction activities. **Loss of Fencing and structures** To ensure that all affected fences and structures are replaced **Loss of Archaeological/Cultural Resources** To ensure that graves at homesteads are relocated prior to commencement of construction activities and the owners of the graves compensated accordingly To ensure that affected homesteads are allowed to carry out cultural practices such as *kuphahla* on their graves prior to commencement of construction activities. On findings of objects of scientific interest, that the works, engage the

IMPACTS	MITIGATION
	National Museum about the findings, who will in turn engage an archaeologist to remove the object of interest. **Asphalt/Crusher Plants** *Location* Where applicable, the Contractor shall install the asphalt, concrete and crushing plants in flat land, cleared of organic topsoil and with suitable access for vehicles. The locations shall be approved by the Engineer, which shall not be near residential settlements. The Contractor will ensure that installations of the plant shall provide adequate storage space for raw and surplus materials, and ample space for traffic circulation to prevent hindrance to loading and unloading operations. **Rock Blasting I**nspections - No household must be within 500 m of active blasting sites. Should these be found to be within the blast zone, these must be inspected prior to and after blasting with photographs of homesteads taken by the contractor before blasting operations begin. The inspection will take place in the presence of the owner/resident 48 hours before and after the blast. In addition, the contractor shall, record each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. Compensation - Blasting induced damage within the blasting zone will be compensated accordingly. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields.
2. Impact on access to Business/ Residential Properties/ Schools and animal crossings	**Business/Residential Accesses** To ensure that access roads leading to business/residential are kept open at all times for easier accessibility and that these provide safe and convenient passage. Where these will be destroyed, alternative access roads will be provided. To ensure that all accesses are not blocked without providing alternatives and re-routing signs posted. To ensure that rocks, debris, dust or mud that will disturb traffic along all roads used by the project is removed as soon as practically possible. To create safe crossing points for pedestrians such as entrances to schools and other main crossings including construction of speed humps. To ensure temporary bus bays and shelters will be installed while construction activities are being carried out. **Cattle Underpasses** To ensure that the public's concerns to have cattle under passes at kaBhudla, Ezamani, Empisi Farm, eMaphopheni, Ngogola, kaPat, Malindza, Emzimofu, eMphandze, kaKheni is adhered to and is constructed. **Bus stops** To ensure that temporary bus stops are constructed where such structures will be destroyed. To ensure that the Design has provision for widening of walkways along busy pedestrian activities especially at Mzimpofu High School with barriers separating pedestrians from traffic To ensure that the public's concerns on the location of bus stops is take into account especially on the proposed interchanges and at Mafutseni where a mini bus rank has been requested.
3. Relocation of Services	**Water Supply and Sewer Pipelines** SWSC will be notified of the proponent's intention to construct a road in the vicinity of their water supply and sewer pipelines, and the need to relocate these pipelines for purposes of road construction. A relocation plan will be drawn up as to how the infrastructure is to be relocated with minimal disruption, and to determine how much the relocation exercise will cost the proponent. SWSC markers will be put in place along the new pipeline routes for future identification. **SEC Power lines** To notify SEC of the need to relocate power lines which are in the road corridor. A relocation plan will be drawn up by to how the infrastructure is to be relocated with minimal disruption, and to determine how much the relocation exercise will cost the proponent. Should the relocation involve underground cables, SEC markers need to be put in place along the new power-line route for future identification. **SPTC Lines** To notify SPTC of the need to relocate the lines which are in the road corridor. A relocation plan will

IMPACTS	MITIGATION
	be drawn up by SPTC and the Contractor as to how the infrastructure is to be relocated with minimal disruption, and to determine how much the relocation exercise will cost the proponent. Should the relocation involve underground cables, SPTC markers need to be put in place along the new line route for future identification.
4. Road usability	**Accident Management** To ensure that there are no soils, debris, dust or mud along access/temporary roads. To ensure that the construction period is minimized, and motorists passing through any area of ongoing construction works will be adequately warned. To ensure that motor vehicle drivers drive cautiously and decrease their speed when passing busy areas to avoid accidents. Destruction of road surfaces by heavy vehicles will be prevented. To protect domesticated animals, the project should design cattle underpasses where possible and cattle grids provisions for where there will be a break from the fence, e.g., residential accesses. To erect fence along the entire project road ***Traffic Management***: To ensure that before undertaking any works in any section, he/she present a Traffic Management Plan to the ECO for approval first. To ensure adequate visible signage warning traffic of construction activities is erected along road, including flag men/women, marking, signs, barricades, to minimize traffic disruptions and accidents. To ensure that construction vehicles take extreme caution while using this road to and from construction works and must give right of way to local traffic. To ensure maintain the access road for the duration of the Contract including fixing potholes, regular cleaning of road surfaces to remove soil deposits, dust, pebbles etc. To construct temporary lanes along the same alignment as the additional ones proposed to minimize inconvenience to motorists and regular users of the road during construction as the road will be constructed in the presence of heavy traffic. To notify regular road users of construction activities that are likely to disrupt traffic, and sound traffic management system should be put in place to control traffic. Should night works be necessary, the Contractor will ensure that night working on detours and traffic diversions are safe by: - Keeping visible signs - Traffic safety measure for night time workers and traffic
5. Maintenance	**Road Surface** MoWPT to ensure that the road is in good state at all times including repairing all pot holes, cracks and other road damages. **Road Reserve** MoWPT to ensure that all roadside vegetation is regularly cleared to prevent visual obscuring. MoWPT to ensure that all rehabilitation and re-vegetation programmes are regularly checked and monitored especially during the first year of operation. **Road Furniture** MoWPT to ensure that all road surfaces including road signs, speed calming measures, are located in clear visible manner at all times and replaced should they be vandalized or knocked down by cars. MoWPT to ensure that all roadside fences are erected and maintained to prevent livestock from entering the roads including access roads. MoWPT to ensure that all road markings are periodically repainted and are visible at all times for road users. **Roadside Drainages** MoWPT to ensure that all drainage structures are regularly cleared of organic and inorganic debris and silt.
6. Sourcing Sand and Working Borrow Pits	**Land Tenure and Ownership** To obtain a permit for removal of material from the identified borrow pit from the owner or authority in charge of the land. All royalties must be paid. As part of the requirements of the Mining Act, the Contractor will: _ Declare gross production sales/figures; _ Submit quarterly returns; _ Produce evidence of payment of Royalties; _ Produce evidence of declaration and payment of Customs Duties where applicable;

IMPACTS	MITIGATION
	To ensure that this borrow pit is worked only for purposes of the upgrading of the proposed road. To identify and arrange for appropriate compensation for use of this pit. This will entail a written agreement in which benefits to the owner of land or local community will be the overriding principle.
7. Spoil Sites	**Spoil Land Tenure and Ownership** To obtain a permit for spoiling of unwanted materials from SEA and land owner/relevant authority.

3.2 Impact on Hydrology

Table 3

IMPACTS	MITIGATION
1. Water Supply: Construction Water	There shall be no abstraction of water from stream or rivers without approvals from the Ministry of Natural Resources
2. Sanitation	Will ensure that workers do not relieve themselves in surrounding bushes. Will provide enough chemical toilets for workers to be strategically located along the road corridor.
3. Drainage	To construct a series of elaborate drains parallel to the road corridor ensuring that water flows freely without being cut-off.
4. Water Pollution	Pollution during construction to be prevented at all cost. To minimize time spent in bridge construction program works to avoid summer rains. No cement mixing to take place along stream/river banks
5. Stream crossings	**Position of Drainage structures** In all instances, drainage structures should emulate the natural drainage structures, thus all drains must discharge into natural drainage lines Cross drains must all be installed to accommodate all streamlets that may be intersected by the road. **Velocity of Surface run off** Engineer all drainage structures to reduce the velocity of run off. The drains will be stone-pitched or stabilized by other suitable means. To ensure that all drainages are designed to dissipate the energy of water on exit of the structure. This may be through the use of gabions or Reno mattress at the point of discharge. To ensure that side drains are terraced to reduce slope gradients and grassed to provide a friction surface **River Diversion** The contractor will at no point alter the existing alignment of a natural river course. **Siltation** A short construction period is desirable, and is possible, bridge construction can preferably be programmed to take place. Working in small sections at a time that can be rehabilitated before proceeding to the next can reduce siltation considerably. Against run-off at catchments areas exposed by construction, campsites and stockpiled areas will be rehabilitation-based. Grassing of all exposed areas will be undertaken by a competent specialist familiar with landscaping techniques involving indigenous vegetation. **Sedimentation** All dumps including aggregate (crush stones), sand are not located in sloppy areas and away from streams or rivers. To ensure that temporary stone-pitched concrete drains/diversion trenches, are to be constructed to control run off for the duration of the construction period. For storm water management, sediment in run-off that would normally cause problems should be managed with silt fences or staked straw bales or construction of detention structures in storm water drains which will enable silt and sediment particles to be trapped while allowing the continued flow of water. To consider timing construction activities by considering the benefits of commencing earthworks during the dry season. To ensure that silt is kept off watercourses by working in small sections at a time that can be

IMPACTS	MITIGATION
	rehabilitated before proceeding to the next to reduce siltation considerably. The Contractor will excavations around streams/rivers/marshy areas with an excavator operating from a dry stable surface to minimize sediment generation; The Contractor will excavate only what is absolutely necessary to meet engineering requirements. Excavated material shall not be sidecast in streams/rivers/marshy areas; **Asphalt Plant** To ensure that the plant shall be kept free of human and construction debris and storm water runoff shall not carry contaminants to adjacent watercourses, wetlands or sensitive vegetation. To ensure that special measures are taken to ensure that storm water run-off is adequately treated to prevent the export of contaminants. Such measures may include stilling ponds, silt traps and oil interceptors. Trucks shall be washed out into an area that drains to the settlement pond described above or to a settlement pond constructed for that purpose to ensure that TSS levels in discharges from the site do not exceed 25 mg/L; In transportation from the plants, trucks shall be fitted with adequate devices to prevent material spillages. The Contractor shall not deposit surplus or waste materials in watercourses or open areas. To the extent possible, surplus material shall be used in the Works, if the quality so warrants. Alternatively, waste cement concrete can be disposed of in embankment fills with the approval of the Project Engineer. The dump trucks to be used in the transportation of surplus material should be fitted with tarpaulins to prevent dust or other material spilling during the haul. The Contractor shall not dispose of used pavement material on the road or highway side, nor in watercourses or wetlands. Such materials shall be disposed of in places approved by the Engineer. Asphaltic cement removed from the site should be re-used or disposed of in a controlled manner in places approved by the Engineer

3.3 Impact on Biodiversity

Table 4

IMPACTS	MITIGATION
1. Impact on Aquatic Habitats	To ensure that the road and bridge designs, incorporate drainage structures that maximize the flow of water
2. Impact on Protected Flora	MoWPT to peg the road and bridge reserves as soon as the alignment has been confirmed in order for the project to be able to identify all protected species with the intention of relocating them. The project will mark these protected species with red tape in the area to be cleared. To minimize biodiversity impact during clearance is detailed in the CMP; it includes working strictly within the road/bridge prism and prevention of encroachment on sensitive areas.
3. Impact on Fauna	Workers will refrain from poaching, and endangered animals are given a chance to migrate to other nearby habitats. Animals must be allowed to migrate freely to nearby habitats that will offer protection from harm. To ensure that silt is kept off watercourses by working in small sections at a time that can be rehabilitated before proceeding to the next to reduce siltation considerably.
4. Impact of Alien Vegetation	All alien species to be actively destroyed by the contractor as per the Noxious Weed Act. Ensure that invasive species such as C*hromolaena odorata* are destroyed at all times during road side refurbishment

3.4 Impact on Air Quality

Table 5

IMPACT	MITIGATION
1. Visual Impacts	**Road Aesthetics** Limit construction period Will speed up the construction program so as to minimize emissions to the environment. Use of well-maintained vehicles.

IMPACT	MITIGATION
	All temporary structures and their foundations used in any of the construction activities will be removed and disposed of in a manner approved by the engineer. Ensure that sites used to mix concrete are ripped and disposed of at an approved builder's rubble site, and the sites will be rehabilitated. **Borrow Pits/Spoil Sites** Ensure progressive rehabilitation must be carried out immediately after construction activities, including spoil area, borrow pits, and all disturbed sites To reshape and contour no longer needed section of the borrow pit to blend them with their immediate surroundings. **Temporary Access Roads and Haulage Roads** To ensure that all unused temporary access roads and haulage roads are rehabilitated as soon as construction works are complete. This will follow the following criteria: *_ All surfaces are to be ripped and disked to a depth not exceeding 100mm using a multi tooth ripper & Planting of cover vegetation including grass may follow* **Cuts and Embankments** Steep slopes, erodible soils, wet areas, and watercourses are areas of high erosion potential and the Contractor shall exercise extra caution in these areas. Point source discharges will be minimized and sheet flow maximized where appropriate; To ensure that all exposed areas during cuts and embankments activities are progressively rehabilitated as soon as construction works are complete. This will be achieved through backfilling and contouring so that the areas blend with the surrounding environment. This will follow the following criteria: *_ Ripping surface of feature and backfilling with construction materials left over from construction activities* *_ Contour backfill with bulldozer to make sure slopes blend with the surrounding environment. On gentle slopes apply light roller to the surface of the slope in places to ensure that the material is lightly compacted and that the surface is smooth* *_ Ensure that all slopes are graded to at least 1:3 but a gradient of 1:5 is preferred* *_ Cover surfaces with stockpile topsoil from site clearances to a depth of approximately 200mm but preferably 500mm.*
2. Particulates	**Road Aesthetics** Adhere to a dust limit of 150µg/m3. Use of water carts for sprinkling water in reducing dust levels especially along the project road near the business properties. All exposed road surfaces to be sealed with bitumen at the earliest convenience. The Contractor will speed up the construction program so as to minimize environmental dust on the roadside communities. The Contractor will ensure that site clearance take place at areas only earmarked for construction activities. The Contractor will ensure that all exposed temporary roads are sprinkled with water by using water browsers especially during dry, windy days. The Contractor will ensure that workers must be provided with nose masks at places where earth-works will be carried out. **Stone Crushing Plant** Boulder stockpiles will be wetted at regular intervals. The jaw crusher will be equipped with water dowsers which will be automatically switched on when boulders are being unloaded into the jaw crushers and during the crushing process. The final products will be wetted by water misters which will be installed at the mouth of the conveyors. Moreover, the stockpiles of finished products will be sprinkled with water regularly, thus abating dust emission. **Asphalt Plant** The Contractor will ensure that the production plants shall be adjusted to operate in such a manner that, to the extent possible, dust and fumes discharge are kept to a minimum
3. Noise Pollution	**Road Aesthetics** The contractor will keep strict working hours (between 8 -00 am and 5 – 00pm on weekdays and from 8-00 am to 1-00pm on weekends unless permission is sought from the Engineer and the

IMPACT	MITIGATION
	Proponent. Proper notification for any change in working hours should be communicated to all affected parties. The contractor will comply with the Factories, Machinery and Construction Works Act of 1972 as applicable for construction works. The contractor will minimize noise from heavy machinery by fitting them with noise suppression measures and ensuring that they are in good working order. Vehicles not in use shall have their engines turned off. The Contractor will ensure that workers must be provided with nose masks at places where earthworks will be carried out. **Stone Crushing Plant** - The machines and equipment will be serviced regularly; - Personnel working in zones of high level noise will be provided with protective appropriate earmuffs; - Noise monitoring exercises will be carried out on a regular basis to ensure compliance at all time with applicable noise level standards; - Lorry traffic within the site will be restricted to normal working hours of the day and traffic speed will be limited to 10 -15 km per hour thereby keeping speed producing noise to a minimum. **Rock Blasting Procedures** - A Schedule of Blasting times will be prepared in advance to notify the general public and residents where this will occur (at least a month). - No blasting will occur on Sundays, at night between 22h00 and 07h00 or when overcast. - No blasting will take place next to schools especially during school hours. - People and all workers operating within the blast zones will be cleared from the site one hour before blasting and again five minutes before blasting - All workers will be supplied with ear plugs before basting begins. - Dust will be minimized by watering down the affected areas - Complaints about noise and vibrations by affected parties will be recorded in detail and remedial actions taken promptly.
4. Waste	**Campsite** A solid waste pit to be located at accessible area will be used to dispose of all general waste. **Construction Sites** To ensure that no waste is dumped along the route. To ensure that plastics, papers and food items are not littered on construction sites. To ensure that no oil drums from vehicles servicing areas are dumped on the open including cement bags but these are to be collected and disposed of at approved sites.

3.5 Impact on Soil

Table 6

1. Excavations.	**Grubbing:** Grubbing shall be done in a systematic manner, i.e.., carried out in manageable sections rather than grading long areas which may result in extended periods for exposed soils. Topsoil shall be retained from grubbing operations wherever possible, and placed on side slopes, back slopes and the medians to improve the establishment of vegetation; **Stockpiling** Areas where topsoil is to be placed shall be fine graded to a uniform surface. It shall be free of all vegetation and other debris, and free from stones All areas that are to be disturbed by construction activities, all topsoil removed must be stockpiled close to the site for rehabilitation purposes. Stockpiling and rehabilitation will be according to the following criteria: ***Stockpiling*** *- topsoil (up to root depth), will be stripped and stored with as little compaction as possible, and only on non-wet days* *- stock piles will not exceed 2m in height* *- Stockpiles which are three (3) months older will be re-seeded* ***rehabilitation of disturbed land and vegetation with topsoil***

	- manual spreading of topsoil without compaction at least 50cm in depth during re-vegetation of disturbed land *- chemical analysis of topsoil to determine the type and quantity of fertilizer to be applied for vigorous growth of grass* *- manual planting of grass runners like Cynodon dactylon, or any other indigenous seed mix in 10cm deep contoured rows, approximately 20cm apart* *- daily watering of the planted areas until growth is fully established* To ensure that stockpiles are not located in natural drainage channels even during the dry season as this will leave it exposed to the processes of water erosion. To ensure that during site clearances interference with surrounding vegetation should be minimized, and only vegetation that is directly in the way of construction operations can be removed. Progressive rehabilitation, i.e., the grassing of exposed areas immediately after works is finished rather than leaving this process till the end of the project will be essential. Once a culvert is installed, the terraces must be grassed immediately. Safeguards are: *_ Only vegetation directly in the way of the construction is to be disturbed.* *_ Leave natural drainage lines in an original as possibly state, but must be concreted and stone pitched.* *_ Surface run-off be roughened with stone-cement mix to reduce water velocities.* To ensure that all dumps and stockpiles are arranged in such a way as not be exposed to the wind, and that all stockpiles are sprayed frequently with water.
2. Soil Erosion	To ensure that the construction period is minimized to prevent long-term exposure of the soils. To ensure that all areas disturbed during construction are rehabilitated without delay. To ensure that all access roads are sealed with bitumen as early as practically possible. Long-term erosion will be controlled by proper drainage design, landscaping and rehabilitation. Drainage associated with the collection of run-off from the road should be properly managed to contain water run-off that may be contaminated. To protect all areas susceptible to erosion and shall take measures to the approval of the ECO The Contractor shall not allow erosion to develop on a large scale before effecting repairs and all erosion damage shall be repaired as soon as possible **Site Camps** All earthworks are to be controlled. Stockpiles will not be placed in areas where run-off will be a problem.
3. Soil Pollution	Preventive measures to ensure that oil spills are safely contained through. Concrete-bounded spill containment facility with an opening for periodic emptying. Only one service yard to be allowed in this project. Construction material like cement to be kept on a concrete floor. Drip trays to always be used to prevent oil spills. **Drainage areas** Road pollutants such as oil, cadmium, nickel, lead, zinc and copper are absorbed by particulates; the removal of silt from stormwater flows is the most effective strategy to improve water quality. Grass lined channels are known to be very efficient mechanisms for removing particulates and associated pollutants from road run-off. The use of grassed swales or weirs for detention of water, most pollutants could be retained before this runoff discharges to water systems
4. Borrow Pits	To rehabilitate natural slopes to reduce environmental impact and erosion, using the stockpile of overburden material. To install proper drainage, such that topsoil which has been stored separately for the pit is used as cover to prevent surface erosion. To engineer the slopes from the borrow pit to enable trapping of silt and sediment particles by either silt fences or staked straw bales while also allowing the continued flow of water. To ensure that the soil is regularly compacted to prevent easy washing away of soil. To ensure that borrow pits extend along directions that will avoid slopes in excess of 1:5. To ensure that any overburden excavated during the course of construction, especially during the use of borrow pit, is stockpiled and used for backfilling during rehabilitation. To progressively rehabilitate the borrow pit, i.e., the grassing of exposed areas immediately after works is finished rather than leaving this process till the end of the project.
5. Spoil Sites	To rehabilitate natural slopes to reduce environmental impact and erosion, using the stockpile of overburden material.

	To install proper drainage, such that topsoil which has been stored separately for the spoil site is used as cover to prevent surface erosion. To cut-off drains will be constructed to prevent run-off where possible. The drains will be stone-pitched or stabilized by other suitable means.

3.6 Impact on Health and Safety

Table 7

IMPACT	MITIGATION
1. Safety	**Traffic Management – Construction** To ensure that adequate visible signage, warning road users of construction works is erected along the MR3 to minimize traffic disruptions and accidents. To ensure that construction vehicles take extreme caution while using this road to and from construction works and must give right of way to local traffic. **Road Accidents - Operational** To ensure that the road is fenced at all times to ensure stray animals do not access the road. To ensure the best traffic management at all times for example traffic speeds are controlled at all times including regular traffic checks to ensure all road users adhere to traffic regulations, to avoid accidents. **Occupational Safety** To educate all workers about safety risks associated with the project. To provide safety equipment to workers, first aid kits, fire-fighting equipment, a pay telephone etc., in case any emergency arises at the site. To comply with the provision of the Factories Machinery and Works Act, 1972 in so far as it will apply to construction and engineering works. To ensure that it is compulsory for all workers to wear protective clothing at all times and declare all construction areas as hard hat areas. **Rock Blasting Impacts** *Official Approval* *- Only blasting plans approved by the GSM and the SEA can be implemented.* *Approved Blast Sites* - That only sites approved by Mines Inspectorate are used to store explosives. - Rock out crops may only be blasted when it is absolutely necessary. *Certified Blaster* - That only a certified blaster is approved for all detonations *Other Personnel* *- That a qualified First Aider is always available at blast sites, with a telephone and vehicle at his/her disposal* *- That the nearest Fire and Emergency Station (Siteki or Manzini), depending on section being worked) is informed prior to any blasting activity.* *Insurance* - That a comprehensive insurance cover is taken prior to any construction works **Borrow Pit** To comply with the Factories Machinery and Construction Works Act of 1972 as applicable for construction works. Avoid borrow material from falling onto main roads and thus causing mud and stalling of moving traffic. To ensure that all stones and sand spills that have fallen from haulage trucks on to main roads are removed at all times to avoid mud and traffic disturbance. To provide appropriate safety equipment to workers and first aid training to the site foreman. To maintain all construction vehicles and plant in good working condition. To comply with the Construction Works Act, 1972 in so far as it will apply to construction and engineering works. To ensure workers receive training on all the necessary safety precautions and procedures they need to follow. Training will also cover safe use of plants and equipment. To ensure that all maintenance schedules are established for all plant and equipment used on site. Plant and equipment shall be in efficient working order and shall be properly used within their known working capacity. Construction workers stationed at borrow pits will be issued with appropriate protective clothing,

IMPACT	MITIGATION
	e.g. dust masks, earmuffs etc. To prevent accidents, the road leading up to the pit will be widened to allow a two-way traffic for haulage vehicles. **Crusher/Asphalt Plant/Borrow Pits** Personnel working on site will be provided with protective clothing including respirators, ear protection, safety shoes, etc., in compliance with the prevailing Occupational Health and Safety Regulations. **Site Camps** A firebreak shall be cleared and maintained around the perimeter of the site camps and office sites where necessary
2. Health	**Construction Sites** *Dust* To speed up the construction program so as to minimize environmental dust on the roadside communities. To ensure that site clearance take place at areas only earmarked for construction activities. To ensure that all exposed temporary roads are sprinkled with water by using water browsers especially during dry, windy days. To ensure that workers must be provided with nose masks at places where earth-works will be carried out. *Sanitation* To ensure that toilets are enough for the workers and that high sanitary standards are practiced at all times including provision of toilet paper and a stand pipe for hand washing after business. To ensure that mobile toilets are provided for workers in all sections where works are carried out. To ensure that toilets are not to be located nearer than 33m from a public stream whether perennial or seasonal as per the Public Stream Banks Regulations. To discourage workers from relieving themselves or urinating in the open *HIV/AIDS Prevention* To provide workers with basic HIV/AIDS education through information leaflets to be distributed within the site. To provide facilities such as free condoms, to be strategically distributed, especially in the toilets. **Site Camps** *Housing* To ensure that campsite housing structures are built of good materials. *Sanitation* To ensure that pit latrines with standpipes are installed at strategic locations within the site. The contractor will ensure that toilets are enough for the workers, and that high sanitary standards are practiced at all times. To ensure that stand pipes for washing hands and toilet papers are provided. *HIV/AIDS Prevention* To provide workers of campsite with basic HIV/AIDS education through information leaflets to be distributed within the campsite. To provide facilities such as free condoms, to be strategically distributed, especially in the toilets. To ensure that the camp is not turned into a social or recreational facility, and employees will be warned in their employment contracts that unbecoming behaviour may result in dismissal from the site.
3. Risks and Hazards	**Construction Works** *Contractual Obligation* Following award of the tender, take out insurance cover for all construction related accidents to include property and public compensation related to site accidents. *Emergency* Hiring or training of workers as emergency officers. Communication linkages with the nearest health facility and the Swaziland National Fire and Emergency Station to respond to such situations. Availing reliable telephone and transport 24 hours. Maintaining of all fire extinguishers, blankets, etc., on a regular basis, at all sites. ***Borrow Pits***

IMPACT	MITIGATION
	To ensure that no borrow pit is left as deep holes as they pose a danger to community livestock and children. In areas where homesteads and or human and or livestock access tracks are within sites, the Contractor will ensure fencing of the perimeter of the borrow area to make the works area secure and safe. To ensure that borrowed areas when no longer needed are reshaped, contoured to blend with their immediate surroundings and drained. The borrow pit will be left as deep hole as it poses a danger to livestock and children. To ensure that access to borrow pits is controlled and only construction employees are allowed entry through the gate. To ensure warning signs alerting the public and the workers of the existence of a borrow pit on that area are erected to prevent unauthorized entry on site.

3.7 Impacts on Socio-economic Issues

Table 8

IMPACT	MITIGATION
1. Project Complaints	To design and implement a Complaints Register which shall be kept in the Site Office into which project related complaints from any Interested/Affected Party can be recorded. The Register will have the name, address, telephone, description of the complaint. The Contractor/Resident Engineer will address timeously all complaints entered into the Register with the aim of removing the source of complaint or minimizing the source of complaint.
2. Creation of Employment	**During Construction** To publicize the number of people required for construction activities. To give first preference to qualifying Swazi nationals to avoid disputes were foreign nationals be seen to be occupying positions that locals qualify for.
3. Entrepreneurship Opportunities during Construction	To ensure that local and aspiring businesspersons are given first preference through out-sourcing of certain works. To publicize works to be outsourced. To subcontract a reasonable percentage of heavy haulage traffic trucks to be used to transport earthwork materials to local Swazi-owned companies. To preferably subcontract out to local Swazi-owned companies which employ women and physically challenged citizens. To encourage local women to sell food items to the workforce at tea time or lunch.
4. Training	To hire certain percentage of trainees from the local institutions with the aim of on-the-job training. To ensure that the training is properly supervised to equip the workers with skills that they will need for future projects.
5. Criminal Element	To engage services of a reputable security firm to ensure that there is no petty thievery of construction materials and diesel from site offices To ensure that there are clear communication channels with the Manzini and Mafutseni police stations.

4 Monitoring program and complementary initiatives

4.1 Monitoring Program:

4.1.1 The environmental and social monitoring program will operate through all phases of the project and will monitor all aspects entailed in the ESMP. It will consist of a number of activities, each with a specific purpose, key indicators, and significance criteria. Among others, the following aspects will be subject to monitoring:

- provision for drainage;
- soil erosion control measures;
- rehabilitation of materials sites;
- impacts on road safety (including road accidents);
- land use changes (particularly settlement patterns) along the project road;

- changes in socio-economic activities along the project road;
- traffic management measures instituted;
- management of cut to spoil materials;
- impacts on changes in the incidence of STI/HIV/AIDS;
- encroachment onto the road reserve; and
- relocation of displaced persons (particularly traders at the markets and flower nurseries).

4.1.2 The monitoring of mitigation measures construction and defects liability period will be carried out by the Contractor's Environmental Expert, who will provide regular reports to the Resident Engineer. After construction, the responsibility for monitoring will lie with the Ministry of Public Works (MPWT), as well as the Swaziland Environmental Authority SEA.

4.1.3 ***Decommissioning***: This involves the removal of the contractor's and workmen's camps, rehabilitation of all materials and work areas (including deviations/access routes or detours etc.) and removal of equipment, excess materials and oil tank farms. A decommissioning plan will form part of the monitoring parameters and will be prepared by the contractor for approval by the resident engineer. The plan will give special attention to remediation of oil polluted areas and the relocation of oil tanks. A decommissioning plan will be prepared by the Contractor for approval by the RE, and a decommissioning audit undertaken. Special attention must be given to remediation of oil polluted areas and the relocation of oil tanks.

4.2 Complementary Initiatives:

The project design has included complementary initiatives which will aim to enhance the project benefit and participation of local communities. Among them are:

(i) Construction of two roadside markets;
(ii) Implementation of HIV/AIDS/STI awareness and prevention activities;
(iii) Implementation if road safety and educational campaigns;
(iv) Conducting sensitization and awareness campaigns against sexual and gender based violence;
(v) Creation of employment opportunities during road construction;
(vi) Carrying out compensation for all affected persons as per the attached abbreviated resettlement action plan (see Annex).

5 Institutional arrangements and capacity building requirements

5.1 System of government and decision-making

5.1.1 The key institutions involved in the management of environment and social aspects of developments are the Swaziland Environment Authority, the Ministry of Economic Planning and Development and the municipalities. The Swaziland Environment Authority, is an autonomous body operating outside of government, but largely depend on government funding. The Swaziland Environment Authority is responsible for issuing permits so that proponents may proceed with development projects.

5.1.2 Inter-sectoral cooperation takes place through several government committees, one of the most important of which is the Planning and Budgeting Committee. The Committee comprises

Principal Secretaries of the Ministry of Finance, the Ministry of Economic Planning and Development, and the Ministry of Public Service and Information. Ideally, only projects that satisfy the Government's objectives of sustainable development and environmental management are allocated funding.

5.2 Capacity Building:

5.2.1 The executing agency requires capacity in order to ensure implementation of the ESMP/CMP as the SEA has an over seeing role instead. The project design has included training of 25 personnel of the Ministry of Public Works and it is envisaged that some of these shall be in the environmental and social safeguards. The Project team will therefore include a qualified environment and social specialist.

6 Public consultations and disclosure requirements

The main concerns/issues raised many times during community consultations is the Right of Way and compensation matters.

6.1 Community Major Concerns and Responses were as follows:

- Compensation for land, farms, boreholes, buildings and commercial activities at current market price which are within the road reserve
- Time frame for the project works and time for removing the properties from the road reserve
- Transparency in valuation and punctuality in paying compensation
- Employment to local communities especially during construction
- Safety while crossing the road.
- On HIV/AIDS issues, awareness campaigns needed
- Notice with sufficient time for relocating their properties

Positive Comments from people:

- This is the best project which may reduce accidents as the road is very narrow
- The construction should start as early as possible
- If the project is well planned and implemented, road carnage will be minimised
- Employment in the project will be provided to locals
- Improved transport and economy of the people;
- Promotion of commerce and trade in the region and neighbouring countries e.g. Mozambique and South Africa;

Improved roadside facilities such as bus shelters, speed humps, road signs

Negative Comments:

- We are not sure if they will rehabilitate this road!
- Government may start construction before compensation and resettlement
- Increased spread of HIV/AIDS and other diseases;
- Loss of land, properties and relocation/ resettlement;
- Loss of employment and income e.g. to those who possessed formal business and vendors;

- Relocation of infrastructures (water, electricity, communication (cable) lines), boreholes, cultural monuments
- Delays in transportation;
- Interference on traditional norms and values;

6.2 Communication Strategy

6.2.1 The importance of the highway project cannot be overemphasized. However, the major concerns raised above would not be real if there was effective and adequate communication between the Road Agency and the stakeholders. In moving forward, MPWT will communicate effectively with all the stakeholders in the project so that there is accurate information about the project in general. Identified stakeholders include communities along the Manzini-Mbadlane road; Key Ministries such as Finance; Members of Parliament; Contractors and Suppliers; NGOs; Media and various communication tools will be used to communicate information on the project including:

- Press releases and newsletters released to the media, posting in public places.
- Media interviews with the project coordinator
- Meetings with groups such as members of parliament, *boBandlancane*

7 Estimated costs

7.1 Costs for implementing the ESMP will be part of the overall bills of quantities (BoQ) based on the mitigation measures highlighted in the ESIA and ESMP. In addition, a provisional sum of USD260,000 (excluding contingencies) has been set aside to finance implementation of the ESMP and complementary initiatives. Furthermore an estimated USD3 million has been earmarked for compensation and resettlement of affected persons.

8 Implementation schedule and reporting

8.1 The Roads Department (RD) of MPWT will be the Executing Agency for the project. The Chief Roads Engineer (CRE) of the RD will nominate a Project Coordinator (PC) for each road section or Lot, who will be responsible for the day-to-day management of respective road section. The CRE will have overall responsibility for the delivery of the project road. The local authority will work with RD to oversee the resettlement and compensation activities and the implementation of social measures. Similarly, SEA and Ministry of Natural Resources and Energy will collaborate with the RD to oversee the environmental compliance

8.2 The project proponent in line with Swazi law will conduct self-audits and report the findings thereof to the Swaziland Environmental Authority (SEA) and the AfDB will also get the same reports during the biannual project supervision missions. The SEA will then conduct audits if the reports show concerns of deviation from the approved CMP/ESMP.

References:

1. Proposed Upgrade of Manzini to Mbadlane Road, ESMP, Ministry of Public Works, 2013
2. Proposed Upgrade of Manzini to Mbadlane, Abbreviated Resettlement Action Plan, Ministry of Public Works, 2013
3. Manzini to Mbadlane (MR3), Project Concept Note, African Development Bank, January 2014

Annex 1

ABBREVIATED RESETTLEMENT ACTION PLAN SUMMARY

Project Title:	Manzini to Mbadlane (MR3) Road Upgrade Project		
Project Number:	P-SZ-DB0-013		
Country:	Kingdom of Swaziland		
Department:	OITC	**Division:**	OITC 2

1. Introduction and Background

1.1 The Manzini – Mbadlane road has deteriorated significantly in the recent past. Moreover, recent planned developments, including a new international airport at Sikhuphe, a national landfill at Mafutseni, and a new bypass for Manzini, have highlighted the need for an upgraded road. To implement the project, the Government of Swaziland has approached the African Development Bank (AfDB) to finance the project. In seeking financing for the project, and as part of the feasibility studies is the carrying out of an Environmental Impact Assessment, and where potential impacts show negative effects on people and properties, a resettlement action plan is required. According to AfDB's procedures, where more than 200 persons are affected. In this case, 70 properties are affected hence an abbreviated resettlement action plan (ARAP) has been prepared. This summary, therefore is an annex to the ESMP summary. The objective of the ARAP has been to collect and analyse all socio-economic data of both the affected areas of urban Manzini from the traffic circle, the farms at Hhelehhele and Ngogola, and the rural areas of Mafutseni and Mbadlane.

1.2 The summary will cover the following topics: description of the project; project area and area of influence; potential impacts; organizational responsibility and institutional framework; community participation; integration with host communities; policy and legal framework; the grievance handling procedure, eligibility, valuation of and compensation for losses, implementation timetable of the ARAP, cost and budget, monitoring and evaluation.

2. Description of the project, project area and area of influence

2.1 The project is about the proposed rehabilitation and reconstruction of the Manzini-Mbadlane MR-3 road to a dual carriage way. The road forms a major east-west strategic link between the major cities of Mbabane, Manzini, the major industrial area of Matsapha, the Lomahasha and Mhlumeni border posts with Mozambique in the north-east, and Lavumisa on the South African border in the south-east.

3. Potential Impacts

3.1 The potential impacts shall primarily emanate from land acquisition for the purposes of the project through claiming the right of way (RoW) to the required standard to accommodate the dual carriage way, including shoulders, provision of additional climbing lanes, bus-bays, interchanges, service roads; and creation of detours, access roads to material sources, and acquisition of land for establishing borrow pits. The designs for rehabilitation works indicate that all the requirements of the highway will be confined within the current right of way of 19m, in as much as possible to minimize impacts. However, due to the extra land take required to

accommodate the widened road, especially the grade separated interchanges and their associated service roads, a total of 70 properties shall be affected.

3.2 The impacts coming with this road project can be classified as follows: private land, residential and business structures (both formal and informal); crops and fruit trees of economic value; and miscellaneous items such household infrastructure (chicken pens, electricity/telecom poles, pools, boreholes, fencing, monuments, sewers, and water reservoirs). Regarding land, most of the land is subdivided into two broad categories, that belonging to Swazi Nation Land (SNL)-communal lands under the custodianship of traditional authorities (chiefs); and Title Deed Land (TDL). Approximately 90% of land losses will be TDL properties. The TDL properties start at km 0 in the area of the Manzini golf course, Moneni, which are within the urban boundary of Manzini under the jurisdiction of the Municipal Council of Manzini (MCM). In total, sixteen (16) property owners have been identified in this area. The rest of the TDL areas outside the urban boundaries include Hhelehhele, Mzimpofu, Mafutseni and Ngogola, whereas the SNL lands were restricted to seven (7) properties which mainly include expropriating the agricultural lands.

3.3 Among the properties to be affected are 12 residential structures six of which are located at Hhelehhele, one at Lugaganeni, three at Mzimpofu and two at Mafutseni; with a total of 23 residing in them. Of these formal residences only two shall need to be completely relocated. Both residential structures are on TDL. Most of the impacts on the other structures will be in a form of loss or damage to fence lines, access and other facilities. Some homesteads will lose cropping areas as the land consists of a mix of residential and farm land; as well as fruit trees will be lost.

4. Organizational Responsibility and Institutional Framework

4.1 Overall responsibility for compensation and resettlement will rest with MPWT, which will be responsible for ensuring a successful compensation program and resettlement of any affected persons. The key aspects of the resettlement program are:

- The establishment of a representative participation structure to involve communities in the management of social impacts during resettlement.
- The establishment of an Entitlement Frame work for the resettlement-related impacts; and
- The initiation of a participatory process to identify potential resettlement sites.

4.2 In Swaziland, there is no organization tasked with resettling people. Each proponent is responsible for carrying out this task. In this ARAP, the executing agency (MPWT) is the institution responsible for ensuring adequate resources for the resettlement of affected people in the road project. In line with this requirement, MPWT will create a Project Implementation Unit (PIU) and a Manzini-Mbadlane Resettlement Committee (MMRC). The MMRC comprises representatives from the Government and local authorities that are stakeholders in the resettlement process. Representatives of NGOs and the affected population will be members of the MMRC. Although there are no specific NGOs dealing with resettlement as such, there are NGOS that have an interest in the plight of people and on environmental issues and ready to get involved. Hence, the MMRC will work within the ambit of the MPWT. The Swaziland Environment Authority (SEA) has been consulted about the project since it will provide guidance to the MMRC with respect to environmental compliance. The SEA has also built adequate capacity to regulate environmental matters, and relies on consultants to monitor resettlement projects as well.

5. Community participation

5.1 The project preparation involved various meetings and stakeholder consultations which begun at scoping stage. The Consultations involved the public along the project road generally to solicit their concerns and/or suggestions about it. At national level, open public meetings were held with the community and stakeholders, directly or indirectly, affected by the project including NGO's, technical specialists, engineers, environmentalists, etc. Also met were interested and affected persons (I&APs) including the Ministry of Public Works and Transport, traditional authorities through *boBandlancane*, Members of Parliament for the areas, the Municipal Council of Manzini, the Chief Roads Engineer represented by the Project Coordinator, the design consultant, and tenants, Churches, vendors, clinics, schools were also consulted, as well as vulnerable groups (elderly and physically challenged community members).

5.2 The meetings were held at various sites along the road between 23 October and 10 December 2013. Meetings were held at Manzini Traffic circle to Lugaganeni which encompassed urban dwellers including the Municipal Council of Manzini, Moneni Traditional Authority, and representative of His Royal Highness the King (Ngwenyama) we engaged. The next stage was from Lugaganeni to Mzimpofu, which is peri-urban; and meetings were held with the owners of the Hhelehhle and Mafutseni filling stations; and owners of Mzimpofu Trading Business. The third stage was from Mzimpofu to Mbadlane which represents a rural setting and consultations were held with the Mafutseni Traditional Authority, and Malindza Traditional Authority who is the Chief of the Mbadlane area.

5.3 A summary of concerns received during public participation process were mainly issues of compensation for land, farms, boreholes, buildings and commercial activities at current market price which are within the road reserve; time frame for the project works and time for removing the properties from the road reserve; transparency in valuation and punctuality in paying compensation; employment to local communities especially during construction; road safety; HIV/AIDS issues, awareness campaigns needed; sufficient notice in time for relocating.

5.4 The project will maintain a continuous consultation strategy through a communication strategy to be developed during construction. This will be organized through the Manzini Mbadlane Resettlement Committee (MMRC) created by this project to oversee resettlement issues and problems; grievances of the affected people and views of the communities to be dealt with.

6. Integration with host communities

6.1 The project will not be moving people from the current locality to new areas. A few who will lose dwelling houses will resettle in the same areas and if they shall need to purchase plots elsewhere within the urban areas, this will have no significance to the existing communities as the numbers are small for a large urban area like Manzini.

7. Policy and Legal Framework and Grievance Redress Mechanisms

7.1 The following is a summary of policies and legislation that are applicable in this context:

(i) The Constitution of the Kingdom of Swaziland, 2005, defines the legal context in which all aspects of human development for Swazis, including land matters can operate. It provides for the rights of citizens to own property and disallows the deprivation of one's

property held in accordance with the law, unless the owner is fairly and adequately compensated.

(ii) The Environmental Management Act, 2002 aims at protecting the natural resources, public health and social/individuals' well-being. Prominent is the Swaziland Environment Management Authority Act 2002.

(iii) The Roads and Outspans Act, 1931 which makes provision for the establishment of public roads and outspans. It stipulates the maximum widths of main roads and compensation for opening, construction and maintenance of any public road/bridge or damage of the environment. It specifies the legal outspans or right of way on this road as 19m from the road centerline, i.e., a 38m width.

(iv) The Acquisition of Property Act, 1961 which makes provision for the compensation of both land and structures for private land owners having Title Deeds and for loss of crops on Swazi Nation Land held through *kukhonta.* It empowers government to expropriate land in public interest.

(v) The Land Use Planning Policy under the Ministry of Agriculture and Co-operatives and proposes to address the issue of land use for the rural-urban and peri-urban areas.

(vi) The National Resettlement Policy, 2002 under the Ministry of Agriculture and Cooperatives which focuses on the threat to Swaziland's rural lands that are disappearing due to soil erosion, overgrazing and expanding population.

(vii) The Rural Planning, Development and Resettlement Bill, 2003 yet to be enacted will overtake the Acquisition of Property Act No. 10 of 1961, which deals with compensation packages for displacement by public works.

(viii) The Resettlement Policy Implementation and Compensation Guidelines, 1996 resettlement in Swaziland is guided by this policy implemented by the Ministry of Housing and Urban Development to implement the Urban Development Project (UDP).

7.2 The Grievance Handling Procedure

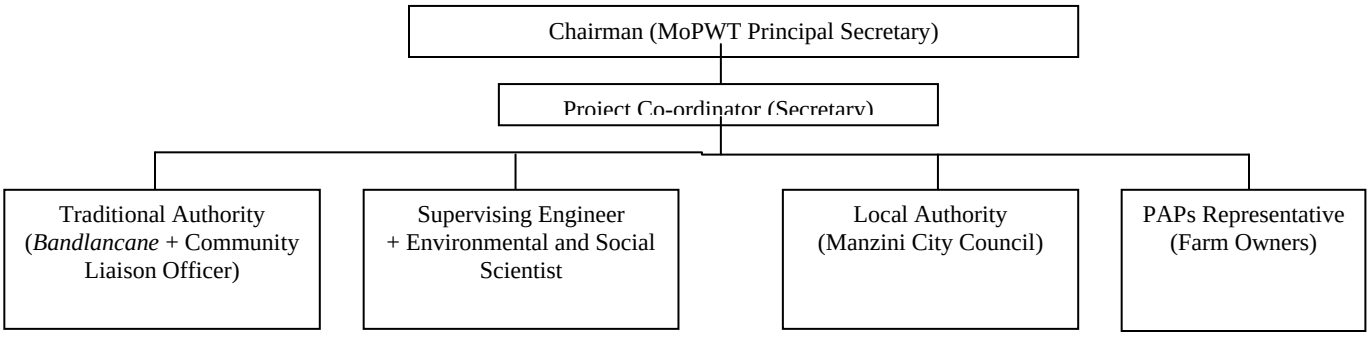
7.2.1 Grievances are issues, concerns, problems, or claims (be it perceived or actual) that an individual or a community group wants a project proponent to address or resolve. In the event that an affected person is not satisfied with the compensation package or the resettlement process, such grievances will be addressed initially through mediation at a local level; but if not the following is the procedure that will be put in place:

- The aggrieved person will first report his/her case to the Project Coordinator and the Manzini-Mbadlane Resettlement Committee (MMRC), who have a direct link with the MPWT Permanent Secretary (PS).
.
- If these parties are unable to resolve the matter, the complainant will be referred to the PS directly for further remediation.

If still no agreement is reached, then legal recourse may be taken. Since legal procedures take long time to settle, often PAPs tend to be disadvantaged during the long process and it is for this

reason that the MMRC should be vigilant so to resolve issues at an early stage. The aggrieved person will be exempt from any administrative fees incurred during the grievance redress.

The Manzini-Mbadlane Resettlement Committee, MMRC



8. Eligibility

8.1 The methodology adopted in this project has taken all affected properties found along the road eligible for compensation. These include:

(i) Loss of land either for agricultural purposes, dwelling or carrying out businesses without regard to title or not titled;
(i) Cultivation of crops and trees of economic value were additional eligible items although not covered in the Act;
(ii) Loss of Income of Roadside Traders: Income from formal and informal businesses were also eligible for compensation although not covered in the Act;
(iii) Miscellaneous Items also included in the eligibility list comprise chicken pens, sewers, wall fence, etc.;
(iv) Vulnerable Groups: In the event that among the community members occupying the right of way, there are those who will get difficulties to vacate due to old age, orphans at young age, and disadvantaged people, etc., despite being compensated will be entitled to extra support.

9. Valuation of and compensation for losses

9.1 The valuations of the properties were predominantly based on the Roads and Outspans Act 40 of 1931 and The Acquisition of Property Act 10 of 1961. Act: No. 10 of 1961 refers to market value and in terms of Section 15 (1), (2) and (3), subject to certain qualifications, the compensation payable should be the market value. The identification, survey and valuation of all properties in the ROW were carried out by a team of Valuers. The MPWT engaged a Private Independent Valuator to evaluate all the properties in the right of way. The Ministry of Agriculture and retailers were then consulted for trees of economic value, and the Municipal Council of Manzini for urban affected properties. The methodology and the norm values for these properties are detailed out in the Entitlement Matrix in Table 9.1 of the ARAP where 70 properties as presented in the Valuation Report. Once inventory and valuations were completed, the affected communities, together with the Manzini City Council and the Ministry of Public

Works and Transport (MPWT), had meetings with each affected property owner in order to confirm ownership of the affected property.

(i) Land and Buildings: The basis of valuation has been the open market value. The norm values derived are for unit of comparison, e.g., where value is analyzed per unit of built area, a norm value per unit of built area and not per component part of the built area, was used. For units, for example, a swimming pool is E75, 000 per unit. Whereas a building (shop) is E3, 500/m^2, a shed for resting is E2, 500/m^2.

(ii) Crops and Trees of Economic Value: Together with affected homesteads and properties, an inventory of crops and fruit trees was made and against this market prices which retailers' information and the Ministry of Agriculture were established. The values were confirmed through a mini market enquiry where information on prevailing prices on items was deduced. Estimations for crops to maturity were taken into consideration.

(iii)Loss of Business/Income: Loss of profit allowance was assessed by establishing net profit per month multiplied by the duration of construction, i.e., 36 months. Loss of profit was, therefore equal to net profit per months multiplied by the estimated construction period of 36 Months.

(iv)Miscellaneous Items: These items are: Boreholes, tank, sewers, wall fences, cultural monuments, chicken pens, etc. Replacement values were sought and general estimates from the construction industry were used to come up with figures.

(v) Inconvenience Allowance: This is an allowance paid whenever resettlement/relocation is affected by government. The rate used is 10% of the value of total compensation. In this compensation, 10% of the sum of the values of land, structures, crops and miscellaneous items is added to the total package.

10. Implementation Timetable of the ARAP

10.1 The implementation process begun with baseline socio-economic survey, sensitization and public awareness campaigns; finalization of designs; letter of offer and compensation; relocation and resettlement. All along and thereafter will be monitoring of specific aspects of the program.

Implementation Schedule

			2013							2014					
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Implementation Item															
1. Detailed Socio Economic Survey															
2. Sensitization															
3. Development of the Entitlement Matrix															
4. Finalize Design															
5. Letter of Offer and Compensation															
6. Relocation and Resettlement															
7. Contract Award															
8. Monitoring and Resettlement															

It should be noted that implementation periods shall change depending on when the financial resources shall be finalized. However, the change in dates shall not affect the actual periods each step shall not necessarily change.

11. Cost and Budget

11.1 The total compensation amount was estimated to be E**33.0 million**, broken down as follows:

Summary of Total Compensation

Property	Total Cost
1. Land	E9,690,156.99
2. Residential Structures	E13,079,687.50
3. Formal Businesses	E7,235,560.00
4. Informal Businesses	E838,800.00
5. Crops and Trees of Economic Value	E2,102,142.00
6. Miscellaneous Items	E1,144,142.00
GRAND TOTAL (excluding contingencies)	**E 33,000,346 (approx.E33.0 million)**

11.2 In addition to this amount is the cost of community sensitization, facilitation of removal of structures, removal of crops, support to vulnerable PAPs, and removal of all other items identifies in the compensation schedule, and Monitoring of ARAP. These items are estimated to cost E313,300.00 (excluding contingencies).

12. Monitoring and Evaluation

12.1 This project is adopting a participatory monitoring and evaluation strategy where all stakeholders will be in a position to monitor the various stages of resettlement and jointly evaluate the ARAP after all the processes have been completed. Specific indicators shall be monitored such as to ensure that notices are served in a timely manner to allow property owners to vacate the right of way starts immediately after community sensitization and public awareness. Ensuring that that all property owners are compensated, followed by removal of all structures from ROW before construction starts. To ensure that all infrastructural services are removed from ROW, to ensure that no new encroachments are developing in some other areas from existing ones, and to ensure that all grievances are resolved amicably and immediately when they arise.

12.2 To achieve the above, monitoring plans shall be developed to cater for all three phases of the project including:

- Phase 1- Monitoring before construction
- Phase 2- Monitoring during construction
- Phase 3- Monitoring after highway rehabilitation and extended to the operational phase of the highway.

Monitoring before and during construction shall be set at regular known short time intervals such as weekly/fortnightly or monthly to be able to have baseline information important for the operation phase. Various stakeholders elaborated in the MMRC and local NGOs and CBOs will also be involved in monitoring representing special community interests.

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