

REPUBLIC OF LIBERIA
ENVIRONMENTAL MANAGEMENT PLAN

**Associated with Implementation of the Emergency Works for the Monrovia –
Buchanan Road Corridor, Gate 15 – Guinea Border Road and S.D Cooper-
ELWA Junction- Coca Cola Factory Road**
Republic of Liberia

1.0 BACKGROUND & INTRODUCTION

1.1 Background

In 2006 an Environmental Management Plan was prepared for Emergency Road Rehabilitation Works for the Monrovia Buchanan Corridor and Gate 15 - Guinea Border Road Project undertaken by the Government of Liberia through the Ministry of Public Works, to address environmental impacts associated with the projects. The rehabilitation works in all sections of the corridors have been completed except for the S.D Cooper- ELWA Junction- Coca Cola Factory section which could not have been undertaken owing in part, to relocation issues involving traders and property owners along the 6.5 Km road corridor from S.D-Cooper- ELWA Junction- Coca Cola Factory. Rehabilitation of this last section of the corridor is due to commence soon with additional financing from the World Bank. Although an EMP was prepared for the whole road corridor including the current section for rehabilitation, there is a need to update the 2006 EMP to reflect current environmental and social-economic issues along the project area that need to be addressed. Accordingly, relevant parts of the EMP in LINK 5, under the section titled “Existing Condition” have been revised, while a Public Consultation section has been included as Section 6. However, the rest of the document remained unchanged, since they are relevant to the current project.

1.2 Introduction

1.2 General

This document provides an Environmental Management Plan (EMP) for the proposed Emergency Works for the Monrovia Buchanan Corridor and Gate 15 - Guinea Border Road Project, and S.D Cooper- ELWA Junction- Coca Cola Factory undertaken by the Government of Liberia through its Ministry of Public Works (MPW). The Project is being undertaken with the assistance of the World Bank.

1.3 Purpose of the Document

The over-arching purpose of the EMP is to ensure that the Project is environmentally sound and sustainable, to ensure that environmental consequences of the proposed emergency actions are understood, and to ensure that the steps necessary to prevent, minimize or

manage adverse effects have been adequately foreseen and incorporated in the Project. Its specific objectives are to:

- Describe and assess the existing environments that would be affected or impacted by the proposed actions;
- Identify and assess the types and magnitude of potential environmental impacts;
- Provide an Environmental Management Plan (EMP) to prevent or manage potential environmental impacts.

1.4 Organization of the Document

The EMP is organized as follows:

2.0. Project Description. Section 2.0 provides a detailed description of the actions to be taken by the project and provides an overview of the World Bank safeguard policies and their relevance to this project.

3.0. Existing Conditions. Section 3.0 provides a description of the environment within the potentially affected area. The description is based on reviews of available documentation, statistical data and field surveys and investigations. The assessment addresses three aspects of the environment:

- Physical Resources - Topography, soils geological characteristics, etc.
- Biological Resources - flora, fauna, nature reserves
- Socio-Environmental- Including social issues, resettlement and compensation and ethnic / indigenous considerations

4.0 Potential Impacts. Section 4.0 provides an assessment, in matrix form, of potential impacts of the proposed Project works in light of the existing conditions.

5.0. Environmental Management Plan. Section 5.0 outlines the recommended management measures for the impacts identified and determines the responsible parties for performing the management tasks.

2.0 PROJECT DESCRIPTION

2.1 Overview. The emergency works cover a network of roads that can be divided into two sections - the Monrovia - Buchanan (MB) Corridor, and the Gate 15 - Guinea Border (GG) Corridor. Each corridor has been divided into two groups of nine and two road sections respectively. MB emergency road works covers nine road sections as indicated by the following table:

Link	Road	Length (km)
MB1	Port of Monrovia - Paynesville via Johnson Street Bridge	16.9
MB2	Port of Monrovia - Red Light Junction via Somalia Road	13.8
MB3	Port of Monrovia - White Plains - Careysburg	40.1

MB4	EL W A Junction - Cotton Tree via Roberts field	53.3
MB5	EL W A Junction - Gate 15 via Red Light and Careysburg	35.4
MB6	Gate 15 - Cotton Tree	27.4
MB7	EL W A Junction Bypass	1.7
MB8	Cotton Tree - Buchanan Town Center	77.5
MB9	Buchanan Town Center - Port of Buchanan	8.7

The GG Corridor comprises two road sections as follows:

Link	Road	Length (km)
GG1	Gate 15-Ganta	225.6
GG2	Ganta – Guinea Border	1.8

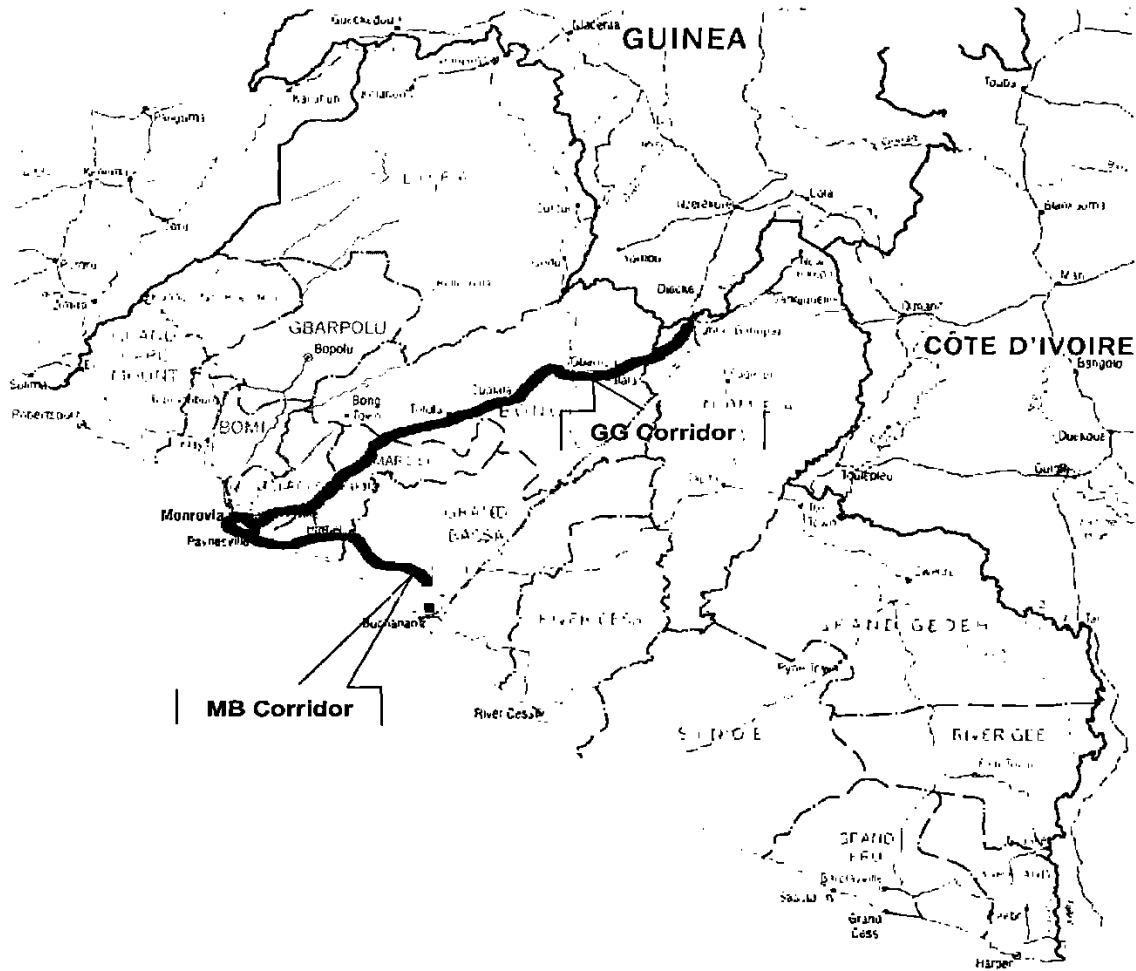
Exhibit 2.1 illustrates the location of both Project Corridors within the context of Liberia. Details of the existing conditions in the potentially affected area are provided item-by-item under the headings of the relevant environmental criteria in Section 3.0.

2.2 Details of the Proposed Action.

2.2.1 Repair of Paved Roads.

The intent of the emergency works is not to rehabilitate or increase the capacity of the pavement structure but to bring these roadway links back to their original design level and keep them functioning until programs for rehabilitation/reconstruction are carried out. Consequently, the items of emergency pavement works are focused on six primary pavement repair actions. The following items represent a large percentage of the cost associated with the proposed emergency pavement works.

Double layer slurry sealing - The application of a double-layer slurry seal is proposed for those areas identified in the pavement condition survey as having high levels of either block and fatigue cracking or other types of cracking as defined in the referenced Distress Identification Manual that are greater than 3mm to 5mm and thus are too small for crack filling with bituminous mastic. On the MB Corridor 1.9 km of four lane and 13.8 km of two lane road are recommended for double layer slurry seal treatment. On the GG Road, a total of 126 km of the two lane roadway is recommended for double layer slurry seal treatment. The location of the proposed slurry seal treatment showing starting and ending kilometer points is included in the Quantity Survey Report.



Asphalt concrete pavement repair - The repair of potholes, deteriorated patches, shoving and larger areas of pavement failure and settlement are covered by three items (Item 442.01- Pavement Patching, Item 202.02-Removal and Disposal of Unsuitable Material and Item 358.01-Crushed Aggregate Base). The drawings and specifications call for a permanent, full-depth patch in which the entire area of pavement exhibiting these types of failure is removed and reinstated with asphalt concrete placed over the repaired base material. These items of work were quantified by summing the total area of damaged pavement on a per kilometer basis. These values are shown on the pavement condition survey sheets included in the Quantity Survey Report. The other key element in attaining a lasting repair is to fix underlying drainage problems that often contribute to base failure.

Shoulder and embankment repair - The material used for shoulder and embankment repair shall conform to the requirements of 1\$ Section 351, Laterite Base Course. This material is readily available in Liberia and is well suited for the rehabilitation of sloughed shoulders and

embankments. This item of work was quantified by summing the total length of shoulder drop-off and embankment failures on both sides of the roadway on a per-kilometer basis. These values are shown on the pavement condition survey sheets included in the Quantity Survey Report.

Shoulder sealing - In order to provide added protection for the existing paved roads a double layer chip seal, 15 m wide on each side of the roadway is proposed. Structurally this will have the benefit of reducing infiltration of water into the existing road base and of reducing shoulder erosion from surface runoff. Sealed shoulders will prevent the growth of vegetation for some time. Finally, the sealed shoulders will serve as walkways so that pedestrians are not forced to walk in the roadway.

Pavement Overlay - The pavement condition along two stretches (totaling about 5 km) is quite poor such that a 2-layer overlay is recommended. The overlay would include a 60 mm asphalt binder course and 50 mm wearing course. Repair of potholes and other types of pavement failure shall be carried out before placement of the new asphalt layers. The approximate locations of these works are on the GG-Road from km 2+000 to km 5+000 and km 16+000 to km 18+000. The exact limits of pavement replacement shall be determined by the Resident Engineer on-site during construction.

Crack sealing - Four types of cracks were measured including edge, longitudinal, reflective, and transverse cracks. The summation of crack lengths, measured on a per-kilometer basis, is shown on the pavement condition survey sheets included in the Quantity Survey Report. The pay item is less than the sum of crack lengths summarized in the survey sheets as only approximately 40% of the surveyed cracks were greater than 3 mm to 5 mm in width. In the areas designated for double layer slurry seal, the larger cracks shall be sealed with bituminous mastic before placement of slurry seal.

2.2.2 Repair of Unpaved Roads

There are approximately 34 dirt or gravel roads within the two project corridors. The condition of these roads, described in detail in Section 2, is from fair to poor. As an emergency measure three items of work shall be undertaken on these roads including clearing and grubbing, shaping and grading and placement of a 150mm laterite base course.

2.2.3 Drainage Works

The AASHTO "Highway Drainage Guidelines", were adopted to identify emergency drainage works. It is recommended that all significant erosions be repaired, weeds cleared and depositions of earth and debris on shoulders and in roadside channels be removed. It is also recommended that all other damages which may weaken the sub-grade or jeopardize the stability of embankment and pavements be undertaken during emergency repairs. There are many items of drainage work identified under the emergency works. However, the most significant actions in terms of protecting the pavement structure and cost are the focus of this section. The following items represent the most important actions associated with the proposed emergency drainage works.

Removal of vegetation grown on shoulders - This work will also serve to restore proper drainage of surface water away from the pavement. The clearing of vegetation on shoulders will also improve safety by re-establishing the shoulder area as a path for pedestrians since the tendency, when the shoulder is covered by vegetation, is for people to walk on the pavement. Furthermore, the visibility of roadside objects such as sign posts, bridge abutments, etc., will be improved for motorists.

Excavating/grading/cutting side ditches/gutters - This item is extremely important in allowing storm water to freely flow away from the roadway embankment and pavement structure. During the course of the field survey, blocked roadside drainage was identified as the key factor in some of the most damaged pavement sections. The volume of material to be excavated was determined by measuring the lengths of blocked ditches and channels and estimating the amount of material needed to be removed per meter.

Culvert works - Based on the field survey, fourteen culverts along the project corridors are in need of immediate attention. Most of the damage to these structures is due to inadequate protection at the inlet and outlet. In the extreme cases, the erosion has reached under the roadway and has caused a reduction in width and an unsafe condition for motorists. At some locations a void has been created under the existing pipe and there are signs of pavement collapse. Proposed actions include culvert extension, culvert replacement, cutoff walls, construction of new headwalls and riprap protection at inlets and outlets.

Repair of breached road - Link 3 on the MB Corridor is currently breached at km 15.65 near Louisiana. The existing CMP culverts have been completely washed out and the road is impassable. Hydrologic and hydraulic calculations indicate that the existing CMP culvert did not have adequate capacity to convey a 50-year design storm event (88m³/s). Preliminary calculations indicate that to limit headwater elevation and outlet velocities, the recommended replacement structure for this crossing would be a 3-cell 3 m x 3 m box culvert. The depth of channel below the roadway is approximately 8 m. Consequently, a 55 m long structure is required to provide a two lane roadway, capacity for future widening to four lanes and an adequate clear zone in accordance with the AASHTO Roadside Design Guide. Additional hydrographic surveys, geotechnical investigation, hydrological and hydraulic calculations and structural design are needed to complete the design of this culvert. Based on the available data a separate approximate Bill of Quantities for the construction of this culvert as well as the associated earthworks and erosion protection shall be submitted with the final Bid Packages.

2.2.4 Traffic Safety

The project team traffic engineer carried out an inventory of existing roadway signs. Recommendations for roadway signage follow the guidelines of the Manual of Uniform Traffic Control Devices (MUTCD). As these are emergency related works, emphasis was placed on the installation of safety related signs (i.e. regulatory signs and warning signs). Informational signs and other non-safety related signs were not included. As these are emergency works it was not considered appropriate to strip edges of road. On two-lane paved roads a centerline strip only is indicated. On the four-lane urban sections white lane delineation striping and centerline striping (where there is no median) is indicated.

2.2.5 Bridges. The main items of emergency work for bridges structures are related to traffic safety including new steel hand railing, concrete railing and erecting new steel crash

barriers. The other major emergency action to be taken on the bridges is the clearance of waterways. There is a significant volume of debris and overgrowth in the channels under the bridges which, if left unchecked, lead to scour and undermining of the bridge foundations.

2.3 World Bank. Safeguard Policies

The operations of the World Bank are guided by a comprehensive set of policies and procedures, dealing with the Bank's core development objectives and goals, the instruments for pursuing them, and specific requirements for Bank financed operations. The core of this guidance lies in the Operational Policies (OPs) which are short, focused statements that follow from the Bank's Articles of Agreement, its general conditions, and from policies specifically approved by the Board. Within the overall set of Operational Policies, Bank management has identified ten key policies that are critical to ensuring that potentially adverse environmental and social consequences are identified, minimized, and mitigated. These ten are known as the "Safeguard Policies" and receive particular attention during the project preparation and approval process.

The parent project was Category B and had triggered Bank Operational Policies OP 4.01 and OP 4.12. The AF2 is also Category B since there are no new activities to be undertaken that would justify a change in the environmental category. The AF2 does not trigger new safeguards policies.

3.0 EXISTING CONDITIONS

3.1 Description of the Existing Environment

The MB and GG comprises eleven road sections varying in length and condition. The following briefly summarizes the socio-environmental conditions of the sections observed during reconnaissance surveys undertaken in 2005:

Link MB1. Port of Monrovia - Paynesville (UN Drive): This section of road is exclusively urban in nature, dominated by large commercial and government properties. No significant environmental issues were observed in this section of the road. It was noted however, that many market stalls have encroached into the right-of-way (RoW) however, it is unlikely that the emergency works will have any significant long term impacts to these stalls. The stalls maybe required to relocate out of the right of way whilst ditch cleaning and culvert repairs are undertaken, but such short term displacement does not warrant any form of compensation.

Link MB2. Port of Monrovia - Paynesville (Somalia Road): As above, this section of road is exclusively urban in nature, but is dominated to a greater degree by small commercial practices and market stalls. Several UN Road blocks in this section of road severely disrupt the fluidity of traffic movement through this section. Additionally, markets at the start of the Project Road and at Red Light bring traffic to a virtual standstill. The road crosses several large rivers, however, due to the predominantly urban nature of the road no significant environmental issues were identified. As above, due to the relatively minor

nature of emergency works the need for any form of compensation or resettlement will not be required.

Link MB3. Port of Monrovia - White Plains - Careysburg: This section of the road traverses a landscape dominated by grassland and patchy areas of woodland. Starting at the Port of Monrovia the road heads east into the countryside following a route roughly parallel to the Saint Paul River. No significant environmental issues were identified in this section, no unique flora or fauna observed and in general no properties or businesses are within the RoW. However, this section of road was in particularly poor condition with certain parts little more than a dirt track through the scrub. This section of road also includes the failed culvert discussed in Section 2.2.3. The Road crosses several small tributaries of the Saint Paul River, many of which require emergency rehabilitation and as such may suffer short term environmental impacts during such works.

Link MB4. EL W A Junction - Cotton Tree via Roberts field: EL W A junction is another extremely busy and important intersection forming part of the greater Monrovia ring road. Upon leaving this section the road traverses some fairly flat grassland and scrubland all the way to Roberts International Airport and on to Cotton Tree via the Firestone plantation. No significant environmental issues were identified in this section of the road. This road section is in good condition and as such emergency works will be fairly. The proposed activities are unlikely to have significant impacts to the local environment.

LINK S.D S.D Cooper- ELWA Junction- Coca Cola Factory. This is part of the ELWA Junction – Gate 15 Section of the road along the ELWA Junction -Ganta Corridor. The length of this subsection of the road is 6.5 Km, starting from S.D Copper and ending at Coca Cola, in Paynesville City. Rehabilitation of this section will complete upgrading of the road corridor from ELWA- Ganta, under the LIBRAM Project.

The **S.D Cooper-Coca Cola Factory** road traverses key communities including ELWA Junction, GSA Road, Duport Road, Police Academy Road, and Red Light, a densely populated commercial district characterized by long chains of stores and thousands of petty traders selling local produce and variety of imported goods along the road. The S.D Cooper to Coca Cola Factory road corridor is also notorious for traffic congestions particularly in the Red Light area.

Baseline environmental conditions of the road section showed that no fauna, flora or natural habitat of conservation importance exist along the S.D Cooper-Coca Cola Factory road corridor. Hence, there will be no environmental impact on biodiversity from the road rehabilitation activities. The most important environmental issues identified through assessment and stakeholders 'consultations include: (1) solid wastes, (2) dust emission, (3), noise, (4) and localized flooding in low sections of the road due in part to poor drainage. Solid waste is the most serious of the environmental problems observed in the project area. Although some residents dispose of their refuse by depositing in waste bins to be collected by waste collectors, however, some throw their waste in the streets. This is the main cause of drainage clogging resulting into flooding along some sections of the corridor. Waste also serves as breeding grounds for mosquitoes and other disease causing organisms.



Figure: 1 Map of Project Area

4.0 IMPACT ASSESSMENT

4.1 General

Given the relatively limited nature of the emergency works and the location of the corridors in areas heavily disturbed by human activities, the impacts resulting from project works are likely to be small scale, localized and limited to the emergency works phase. Exhibit 4.1 indicates, in the form of a matrix, the potentially affected road sections. Mitigation measures for the identified impacts are described in detail in the accompanying Environmental Management Plan (Section

EXHIBIT 4.1. ENVIRONMENTAL IMPACT MATRIX
Monrovia - Buchanan

Sub-environmental Medium Physical	Monrovia - Buchanan									Gate 15 - Guinea	
	Port of Monrovia - Pyramide MB1	Port of Monrovia - Red Light MB2	Port of Monrovia - Caspary MB3	EWI, Inshore - Green Pier MB4	EWI, Inshore - Gate 15 MB5	Gate 15 - Green Pier MB6	EWI, Inshore - Pyramide MB7	Green Pier - Buchanan MB8	Buchanan - Buchanan Port MB9	Gate 15 - Guinea GG1	Green - Guinea Border GG2
Soils & Geology											
Hydrology											
Air Quality	X	X	X	X	X	X	X	X	X	X	X
Flora											
Fauna											
Protected Areas											
Economic Characteristics											
Social Issues											
Land Use											
Resettlement & Compensation Issues											
Ethnic Minority Considerations											
Infrastructure											
Cultural Resources	X	X	X	X	X	X	X	X	X	X	X
Public Health & Safety	X	X	X	X	X	X	X	X	X	X	X
Waste Disposal	X	X	X	X	X	X	X	X	X	X	X
Noise	X	X	X	X	X	X	X	X	X	X	X
✓ Positive Impact											
X Negative Impact											
- No Impact											

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5.0 ENVIRONMENTAL MANAGEMENT PLAN

5.1 Environmental Mitigation.

This section of the report describes the measures necessary to manage the impacts identified in Section 4.0. It is important to note that, insofar as possible, the EMP is based on avoidance of environmental impacts, rather than amelioration of their adverse consequences. Avoidance of impacts is always the preferred form of management.

Realization of these recommendations and a sound Environmental Management Program will require contractual management measures. Recommendations must be backed by adoption of enforceable contract provisions as outlined in Appendix A. The recommended management measures vis-a-vis the major environmental criteria are summarized in Exhibit S.1. Incorporation of these recommendations into the Project's bid and contract documents is essential to achieving the Project's environmental goals.

EXHIBITS.1 ENVIRONMENTAL MANAGEMENT PLAN
MONROVIA - BUCHANAN AND MONROVIA - GANTA CORRIDORS

Physical Environment Issue	Management	Responsibility	Road Section	
Soils and Geology Quarry Operations. Crushed Rick will be Required	It is recommended that contract documents specify use of only licensed quarries	Incorporated in recommended contract provisions, Appendix A Contract enforcement by MPW and its construction Supervision Consultant	MB1, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9,	

			GGI, GG2,	
Soils and Geology – Loss of Soil for Agriculture	No loss of soil for agricultural use is anticipated.		N/A	N/A
Production Soils and Geology – Erosion	<p>Bid and contract documents will include requirements to ensure:</p> <ul style="list-style-type: none"> • Use of less erosion-prone materials. • Timely completion of final forming & re-vegetation • Trenching where necessary. • Seeding with fast growing native seed mixtures. • Use of grass sods where warranted. • Stabilization of embankment slopes. • Use of riprap to reduce erosion when required. • Side slopes based on soil and other conditions per Project Specifications. • Stepped embankments if greater than six meters. <p>Construction in erosion- and flood-prone areas restricted to the dry season.</p>	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant.</p>	<p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>	
Soils - Borrow Pits	<p>It is recommended that contract documents specify the use of existing authorized borrow pits.</p> <p>Bid and contract documents will include requirements to ensure:</p> <p>Adoption of appropriate hydrological standards.</p> <ul style="list-style-type: none"> • Installation of adequately sized drainage channels. • Stabilization of downstream slopes with concrete, rock gabions or walls to avoid erosion where warranted. • Contract provisions to ensure that construction camps and other potential sources of secondary impacts are properly sited and provided with drainage and wastewater facilities. <p>Mitigation will include:</p> <ul style="list-style-type: none"> • Avoidance of adverse impacts through enforcement of good 	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant.</p>	<p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>	
Hydrology Alteration of Surface Drainage				
Hydrology Water Quality Degradation			Incorporated in recommended	MBI, MB2, MB3,

<p>Hydrology Impacts to Wetlands Hydrology Impacts to subsurface Hydrology</p>	<p>environmental management practice under construction supervision staff.</p> <ul style="list-style-type: none"> Design engineering to ensure that road drainage provisions and rehabilitated embankments that do not alter the current status of natural water bodies and irrigation structures adjacent to alignments. Contract provisions will ensure that construction camps and other potential sources of secondary impacts are properly sited and provided with drainage and wastewater facilities <p>Other than short term construction related impacts to areas on the fringes of Buchanan, no significant impacts to wetlands are anticipated. Safeguards are incorporated into contracts to control runoff and proper waste disposal.</p>	<p>contract provisions, Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant.</p> <p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant.</p>	<p>MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p> <p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>
<p>Hydrology Flood and Inundation Characteristics Hydrology Impacts to Irrigation Systems</p>	<p>Emergency works are likely to decrease flood and inundation issues in the project area. As such no management actions are warranted.</p> <p>Bid contract documents are recommended to specify that the contractor ensure irrigation channels diverted during the construction phase will be returned to their original status. Where this is not possible, or where channels are irrevocably altered, consultation will be held with landowners to ensure that an adequate redesign is undertaken to ensure that irrigation channels are returned as closely as possible to their former layout. The contractor will undertake all necessary works to achieve this status, including provision of labor.</p>	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant.</p>	<p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>
<p>Air Quality Construction Related Pollution</p>	<p>Bid and contract documents will specify:</p> <ul style="list-style-type: none"> Locations of asphalt and hot-mix 	<p>Incorporated in recommended contract provisions,</p>	<p>MBI, MB2, MB3,</p>

	<p>plants.</p> <ul style="list-style-type: none"> • Emission control requirements. • Requirements to spray for dust control. • Use of tarps when transporting. • Authorization of Supervising Engineer to discontinue construction under unfavorable conditions. • Use of pollution control devices checked at regular intervals. • Prohibition of open burning. 	Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant.	MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2
Air Quality Operational Pollution	No significant operational air quality impacts anticipated. No management required	N/A	N/A
Biological Environment Issue Management	Mitigation	Responsibility	Road Section
Impacts to Flora	Some small scale localized impacts may occur to roadside vegetation during rehabilitation of culverts and cleaning of ditches. Such impacts are unlikely to have significant affects to the local environment.	N/A	N/A
Impacts to Fauna	Impacts to Fauna: No impacts to fauna are anticipated due to the small scale nature of the emergency works. No management required	N/A	N/A
Impacts to Protected Areas	No impacts to fauna are anticipated due to the small scale nature of the emergency works. No mitigation require	N/A	N/A
Socio-environmental Issue	None of the project roads are located within 100 km of any protected areas. No management required	N/A	N/A
Impacts to Economic and Demographic Characteristics	Mitigation The potential impacts on the area economy during the Operational Stage of the Project are assessed as beneficial and do not warrant mitigation	Responsibility	Road Section
Impacts to Existing Land Use	Contracts for the Project activities require construction operators to: Maintain and cleanup campsites, and respect the rights of local landowners. If located outside the ROW, written agreements with local landowners for	N/A	N/A
		Incorporated in recommended contract provisions, Appendix A. Contract enforcement by	MBI, MB2, MB3, MB4, MBS, MB6, MB?,

<p>Resettlement and Compensation Issues - Displacement and Other PAP impacts</p>	<p>temporary use of the property will be required and sites must be restored to a level acceptable to the owner within a predetermined time period.</p> <p>The intent of the emergency works is not to rehabilitate or increase the capacity of the pavement structure but to bring these roadway links back to their original design level and keep them functioning until programs for rehabilitation/reconstruction are carried out. As such there will be no requirement for resettlement or compensation as works will be limited to the existing road with no widening or changes of alignment required. There is some form of encroachment into the right of way along some road sections, particularly those within urban areas. However, the encroachment is almost exclusively by small portable market stalls selling their wares to passersby. Activities such as pavement repair, culvert repair and ditch cleaning may require the short term relocation of these practices from the right of way, but such disturbances will not trigger the need for resettlement action plans or compensation payments. Most of the Liberian population (95%) belongs to 16 indigenous African tribes - the most common of which are Bassa and Kpelle. No significant negative impacts to ethnic / indigenous peoples have been identified and as such no mitigation actions warranted.</p>	<p>MPW and its Construction Supervision Consultant.</p> <p>N/A</p>	<p>MB8, MB9, GGI, GG2</p> <p>N/A</p>
<p>Impacts to Ethnic / Indigenous Peoples</p>	<p>Traffic detours during construction will be management by the provision of notice and the adequate use of signs and signalmen. Contracts will include the provision for a traffic manager for each road section.</p>	<p>N/A</p>	<p>N/A</p>
<p>Impacts Infrastructure – Transport</p>	<p>. No significant cultural resources were identified during site visits. It is assumed that any possible cultural resources have been looted or destroyed. In the event of unanticipated discoveries of cultural or</p>	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction Supervision Consultant</p>	<p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>
<p>Impacts to Cultural Resources</p>	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by</p>	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by</p>	<p>MBI, MB2, MB3, MB4,</p>

Public Health and Safety Impacts Construction Accidents	<p>historic artifacts (movable or immovable) in the course of the work, the Contractor shall take all necessary measures to protect the findings and shall notify the Supervising Engineer.</p> <p>Contract-specified requirements will require introductory safety orientation programs, including STD awareness programs, and the identification of emergency facilities. Contractors will be required to provide basic emergency health facilities for workers</p>	<p>MPW and its Construction Supervision Consultant</p> <p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction</p>	<p>MBS, MB6, MB?, MB8, MB9, GGI, GG2</p> <p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>
Noise Impacts - Construction Phase	<p>Potential impacts during the construction phase will be managed through the use of:</p> <ul style="list-style-type: none"> • Source Controls, i.e., requirements that all exhaust systems will be maintained in good working order; properly designed engine enclosures and intake silencers will be employed; and regular equipment maintenance will be undertaken. • Site Controls, i.e., requirements that stationary equipment will be placed as far from sensitive land uses as practical; selected to minimize objectionable noise impacts; and provided with shielding mechanisms where possible. • Time and Activity Constraints, i.e., operations will be scheduled to coincide with periods when people would least likely be affected; work hours and work days will be limited to less noise-sensitive times. Hours-of-work will be approved by the site engineer having due regard for possible noise disturbance to the local residents or other activities. Construction activities will be strictly prohibited between 10 PM and 6 AM in the residential areas. 	<p>Incorporated in recommended contract provisions, Appendix A. Contract enforcement by MPW and its Construction</p>	<p>MBI, MB2, MB3, MB4, MBS, MB6, MB?, MB8, MB9, GGI, GG2</p>
Noise Impacts -	No significant adverse impacts due to	N/A	N/A

- Prevention of damage to undiscovered significant archeological or historical findings;
- Verification that proper waste disposal at construction sites and road camps is done;
- Assurance that construction sites and road camps are cleaned after construction; and
- Inspection of vegetation covers (removal and re-growth) on the basis of field examinations.

6.0 Public Consultation

6.1 Introduction and Rationale

Three stakeholders' consultations were held from 5-6 April 2017 at the Crown Hotel, in Paynesville City. The first meeting was held with the City Major and staff of the Paynesville City Council on 5 April 2017 at 11 am.

The second meeting was held at 2pm on the same day with four groups of stakeholders including (1) the Liberia Marketing Association, (2) the Federation of Road Transport Union of Liberia, (3) the Petty Traders Association, and (4) Motor Cyclist Association- Paynesville Branch. The third meeting was held on 6 April 2017 at 9 am in the same venue with all project affected persons including property owners, business entities, road users, and other interested parties.

The rationale of the meeting was to apprise the stakeholders on the need for updating the EMP, to reflect current environmental and socio-economic conditions of the project area, which was not clearly identified in the 2006 EMP.

Objectives of the Consultations

The specific objective of the meetings was to get the perspectives of the stakeholders on the prevailing environmental issues of the project area, and how those issues could be mitigated. The key environmental issues identified by the meeting participants were: (1) waste management, (2) localized flooding in sections of the road, (3) dust emission, (4) noise, and vibration. The stakeholders stressed that the road rehabilitation works must ensure mitigation measures of these impacts. Minutes of the stakeholders' consultations is attached, as annex of this revised EMP.

Link MB6. Gate 15 - Cotton Tree: This section of road traverses exclusively Firestone Plantation grounds. Entrance to this section of the road is via a Firestone Checkpoint. After this point the road follows a well maintained section of road all the way to Harbel (anecdotal information suggests this road is maintained by the Firestone Company). This section of road comprises almost exclusively Rubber Trees (*Hevea brasiliensis*) tapped by an army of some 10,000 or so workers. Reportedly the plantation was formerly a swamp dominated by mangroves, none of which are present today. Anecdotal information also suggests that Firestones activities may potentially be resulting in air and surface I groundwater pollution. Emergency works are unlikely to have any significant impacts to this road section.

Link MB7. EL W A Junction Bypass: This short section of road cuts the corner of EL W A junction. Basically it is a dirt track that becomes nigh impossible to pass during the rainy season. This area behind the junction comprises mostly residential housing. Traffic volumes are very low, and as such development of this road would ruin this part of town where children are free to play outside without fear of being run down by speeding cars, or choked by the wretched fumes that belch from the aging fleet of cars that rumble through Monrovia. From a socio-environmental perspective, this bypass is not warranted and would only further degrade Monrovia's environment.

Link MB8. Cotton Tree - Buchanan Town Center: From Harbel the road traverses some dense rubber plantations and scrubland. This corridor comprises mainly small villages reliant on subsistence agriculture (cassava etc) and fishing (from the numerous rivers crossing the project road). Towards Buchanan the road passes some wetlands, some of which may be biologically important. This section of the corridor is in most need of emergency repair. Buchanan itself is a town in decay clearly suffering from the UN embargo on port related activities. The once energetic town center is now a virtual ghost town, unemployment is high and all former industrial facilities now sit redundant and looted. Emergency works may have short term localised impacts to the wetlands outside of Buchanan and to the small tributaries that the road

crosses. However, the positive impacts of rehabilitating this section of road outweigh these short term impacts resulting from the emergency works.

Link MB9. Buchanan Town Center - Buchanan Port: Given Buchanan's former status as a major industrial port it seems strange that there is no direct route into the port, rather a series of disjointed gravel, mud and paved surfaces that weave their way through the desolate landscape to the port itself. Given the rather eerie nature of the surrounding looted industrial landscape the potential for significant environmental impacts resulting from project works is considered negligible.

Link GG 1. Gate 15 - Ganta: From Gate 15 the road traverses a large section of the Firestone Plantation. As stated above, Firestone Plantation may be a source of potentially polluting activities, such as air and surface water pollution. The road continues through Firestone for several kilometres then enters an area of degraded landscape utilised for charcoal production.

Swathes of forest have been cut in this area (however, none of this forest area is deemed by the UNEP to be of biological significance). The project road continues through some fairly bland rolling landscape until it reaches Gbanga, a rather small uninspiring town of high unemployment. Upon leaving Gbanga the road continues to traverse rolling landscape and is bordered by thick vegetation, none of which appears to be of biological significance. It is notable that both Corridors avoid any areas of biological significance as classified by the UNEP.

The elevation of the road rises as it continues to Ganta and as it does so the issue of poor road drainage becomes increasingly evident. At several low points of the road flooding appears to have occurred during peak rainfall periods and as a result of poor drainage sections of the road have almost completely deteriorated. The final section of the road bisects Ganta and finishes at the bridge border with Guinea. Ganta is a medium sized town bustling with small commercial activities and market stalls. All impacts to this section of road will be localised and short term, and none are anticipated to be significant, more to do with temporary traffic detours where significant pavement deterioration has occurred.

Link GG2. Ganta - Guinea Border: This short section of dirt track winds down from the perch of Garita to the border of Guinea. No significant environmental issues have been identified in this section.

APPENDIX A - CONTRACT PROVISIONS

X.0 ENVIRONMENTAL

X.1 General Provisions and Precautions

The Sub-Contractor shall take all necessary measures and precautions and otherwise ensure that the execution of the Works and all associated operations on the Work Sites or off-site are carried out in conformity with statutory and regulatory environmental requirements of Liberia. The Sub-contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of the Work. This shall, wherever possible, be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated. In the event of any spoil or debris or silt from the Work Sites being deposited on any adjacent land, the Sub-Contractor shall immediately remove all such spoil debris or silt and restore the affected area to its original state to the satisfaction of the responsible authorities.

X.2 Water Quality

The following conditions shall apply to avoid adverse impacts to water quality:

- The Sub-Contractor shall prevent any interference with the supply to, or abstraction from, water resources and the pollution of water resources (including underground percolating water) as a result of the execution of the Works.
- The Sub-Contractor shall not discharge or deposit any matter arising from the execution of the Work into any waters except with the permission of the Contractor and regulatory authorities concerned.

- The Sub-Contractor shall at all times ensure that all existing stream courses and drains within and adjacent to the Site are kept safe and free from any debris and any materials arising from the Works.
- The Sub-Contractor shall protect all watercourses, waterways, ditches, canals, drains, lakes and the like from pollution, silting, flooding or erosion as a result of the execution of the Works.

X.3 Air Quality

The following conditions shall apply to avoid adverse impacts to air quality:

- Open burning will be prohibited.
- Blasting (if any) will be carried out using small charges, and dust-generating items will be conveyed under cover.
- In periods of high wind, dust-generating operations shall not be permitted within 200 meters of residential areas having regard to the prevailing direction of the wind.
- Asphalt and hot-mix plants sites shall not be established prior to the approval of the Contractor and shall be located at least 500 meters away from the nearest sensitive receptor (e.g., schools and hospitals). Operators will be required to install emission controls.
- Water sprays shall be used during the delivery and handling of materials when dust is likely to be created and to dampen stored materials during dry and windy weather.
- Stockpiles of materials shall be sited in sheltered areas or within hoarding, away from sensitive areas. Stockpiles of friable material shall be covered with clean tarpaulins, with application of sprayed water during dry and windy weather. Stockpiles of material or debris shall be dampened prior to their movement whenever warranted.
- Vehicle with an open load-carrying area used for transporting potentially dust-producing material shall have properly fitting side and tailboards. Materials having the potential to produce dust shall not be loaded to a level higher than the side and tail boards, and shall be covered with a clean tarpaulin in good condition. The tarpaulin shall be properly secured and extend over the edges of the side and tailboards.
- In periods of adverse weather adverse impacts to adjacent residents or site employees during construction will be mitigated by either discontinuing until favorable conditions are restored, or, if warranted, sites may be watered to prevent dust generation, particularly at crushing plants.
- Machinery and equipment will be fitted with pollution control devices, which will be checked at regular intervals to ensure that they are in working order. Best available pollution control technologies will be required.

X.4 Protections of Soils

Borrow Pits. The following conditions shall apply to borrow pits:

- Borrow areas will be located outside the ROWs.
- Pit restoration will follow the completion of works in full compliance all applicable standards and specifications.
- The excavation and restoration of the borrow areas and their surroundings, in an environmentally sound manner to the satisfaction of the Contractor is required before final acceptance and payment under the terms of contracts.

- Borrow pit areas will be graded to ensure drainage and visual uniformity, or to create permanent tanks/dams.
- Topsoil from borrow pit areas will be saved and reused in re-vegetating the pits to the satisfaction of the Contractor.
- Additional borrow pits will not be opened without the restoration of those areas no longer in use.

Quarries. To ensure adequate management of potential adverse impacts, only licensed quarrying operations are to be used for material sources. If licensed quarries are not available the Subcontractors may be made responsible for setting up their dedicated crusher plants at approved quarry sites

Erosion. To avoid potential adverse impacts due to erosion, the Sub-Contractor shall:

- Line spillage ways with riprap to prevent undercutting.
- Provide Mitigation plantings and fencing where necessary to stabilize the soil and reduce erosion.
- Upgrade and adequately size, line and contour storm drainage to minimize erosion potential.
- To avoid erosion and gulying of road formations, the Contractor should reduce his earthworks during the peak of rainy seasons, use gabions and miter drains, and avoid angle termination at the intersections of cuts and fills.
- As noted in elsewhere in these Specifications, ditches shall be designed for the toe of slopes in cut sections with gutters or drainage chutes being employed to carry water down slopes to prevent erosion. Interceptor ditches shall be designed and constructed near the top of the back of slopes or on benches in the cut slopes as well as when there is a slope on adjacent ground toward the fill. When the roadway has a steep longitudinal slope, a drain is to be designed and constructed at the down-slope end of the cut to intercept longitudinal flow and carry it safely away from the fill slopes.

X.5 Avoidance of Social Impacts

To avoid adverse social impacts, the Sub-Contractor shall:

- Coordinate all construction activities with neighboring land uses and respect the rights of local landowners. If located outside the ROW, written agreements with local landowners for temporary use of the property will be required and sites must be restored to a level acceptable to the owner within a predetermined time period.
- Maintain and cleanup campsites.
- Attend to the health and safety of their workers by providing basic emergency health facilities for workers and incorporate programs aimed at the prevention of sexually transmitted diseases as a part of all construction employee orientation programs.
- Obtain approval of all diversions and accommodations of traffic. As stipulated by Section _ which states that "the Sub-Contractor shall provide the Contractor with a written traffic control plan which is to include when and where flagmen shall be employed and when and where traffic cones or other devices such as barricades and/or lights will be used. Where ...

traffic diversions area planned for ... additional areas (will) be de-mined and the diversions clearly defined for travel."

- Construct and maintain by-passes around bridges to be reconstructed until such time as the bridge is open for traffic. By-passes will be removed and the affected areas re-graded so as to blend in with the existing contours when the bridge is opened.

X.6 Noise

To avoid adverse impacts due to noise, the Sub-Contractor shall:

- Consider noise as an environmental constraint in his planning and execution of the Works.
- Use equipment conforming to international standards and directives on noise and vibration emissions.
- Take all necessary measures to ensure that the operation of all mechanical equipment and construction processes on and off the Site shall not cause any unnecessary or excessive noise, taking into account applicable environmental requirements
- Take silencers where appropriate and regularly regular maintain noise-generating equipment.
- Use all necessary measures and shall maintain all plant and silencing equipment in good condition so as to minimize the noise emission during construction works.
- Schedule operations to coincide with periods when people would least likely be affected and limit work hours and work days to less noise-sensitive times. Hours-of-work will be approved by the Contractor having due regard for possible noise disturbance to the local residents or other activities. Construction activities will be strictly prohibited between 10 PM and 6 AM in the residential areas. When operating close to sensitive areas such as residential, nursery, or medical facilities, the Sub-Contractor's hours of working shall be limited to 8 AM to 6 PM.
- Incorporate noise considerations in public notification of construction operations and specify methods to handle complaints. Disposal sites and haul routes will be coordinated with local officials to avoid adverse traffic noise.

X.7 Protection of Historic and Cultural Resources

To avoid potential adverse impacts to historic and cultural resources, the Sub-Contractor shall; in the event of unanticipated discoveries of cultural or historic artifacts (movable or immovable) in the course of the work, the Sub-Contractor shall take all necessary measures to protect the findings and shall notify the Contractor and provincial-level representatives of the Archaeological Committee under the Ministry of Information and Culture. If continuation of the work would endanger the finding, project work shall be suspended until a solution for preservation of the artifacts is agreed upon.

X.8 Protection of Utilities

To avoid potential adverse impacts to utilities, the Sub-Contractor shall:

- Ascertain and take into account in his method of working the presence of utility services on and in the vicinity of the Site.

- Take into account in his program the periods required to locate, access, protect, support and divert such services, including any periods of notice required to effect such work in consultation with authorities operating such services.
- Assume all responsibility to locate or to confirm the details and location of all utility services on or in the vicinity of the Site.
- Exercise the greatest care at all times to avoid damage to or interference with services.
- Assume responsibility for any damage and/or interference caused by him or his agents, directly or indirectly, arising from actions taken or a failure to take action, and for full restoration of the damage.

X 9 Waste Disposal and Hazardous Materials

Water and waste products shall be collected, removed via suitable and properly designed temporary drainage systems and disposed of at a location and in a manner that will cause neither pollution nor nuisance. Insofar as possible, all temporary construction facilities will be located at least 50 meters away from a water course, stream, or canal.

The Contractor shall not dispose of used pavement material on the road or highway side, nor in water courses or wetlands. Such material shall be utilized or disposed of in places approved by the CSC.

Whenever large amounts of asphaltic concrete are to be removed from a highway, the material should be reused or disposed of by burial to a minimum of one meter depth.

The Contractor shall not dispose of any surplus material on private land unless authorized by in writing by the owner(s), authenticated before a Notary Public, and with previous authorization of the CSC.

X.10 Environmental Monitoring

Monitoring or direct impacts will be carried out by the CSC and will include, but not restricted to, the following concerns:

- Erosion along highway segments and borrow sites during and after construction;
- Silting and increased sediment loads to streams crossed by the highway.
- Prevention of damage to undiscovered significant archeological or historical findings;
- Verification that proper waste disposal at construction sites and road camps is done;
- Assurance that construction sites and road camps are cleaned after construction; and
- Inspections of vegetation cover (removal and re-growth) on the basis of field examinations.

APPENDIX B-PUBLIC CONSULTATION RECORDs



REPUBLIC OF LIBERIA
INFRASTRUCTURE IMPLEMENTATION UNIT
MINISTRY OF PUBLIC WORKS



P. O. BOX 9011
SOUTH, LYNCH STREET
MONROVIA, LIBERIA

MINUTES OF STAKEHOLDERS CONSULTATION MEETINGS

For

**REVISION OF EMP FOR LIBRAMP & URIRP TO REHABILITATE THE
S.D. COOPER INTERSECTION - COCA COLA FACTORY ROAD REHABILITATION
PROJECT (6.5KM)**

Introduction

To support the preparation of the Environmental Management Plan (EMP) for the above road project, three stakeholders' consultation meetings were held in the project area – one with Madam Cyvette Gibson, Mayor of the Paynesville City Corporation (PCC) with her key staff, the second meeting with the leadership of four stakeholder organizations (Liberia Marketing Association (LMA), the Petty Traders' Union (PTU), the Federation of Road Transport Union of Liberia (FRTUL), and the Motorcycle Union), and a general meeting with project affected persons.

The objective of these stakeholders' consultations was to get their perspective on the anticipated impacts of the road project and how those impacts can be mitigated.

Agenda of the Meetings

- ❖ Overview of the project
- ❖ Anticipated impacts of the Project
- ❖ Perspectives of the Stakeholders on project impacts and mitigation measures
- ❖ Recommendations from the stakeholders

MEETING WITH THE PAYNESVILLE CITY MAYOR AND HER STAFF

The meeting with the Paynesville City Mayor and her staff was held in the Conference Room of the Mayor's Office on April 5, 2017, commencing at 11:00 AM. The meeting discussion was carried out based on the above agenda.

Overview of the project

After a brief welcome statement by the Mayor and self-introduction by participants, the IIU/MPW Environmentalist gave the overview of the planned road construction works including the purpose of the project and the adverse environmental and social impacts that would result from the civil works phase.

Waste disposal challenges in the project area

The Mayor pointed out that the City of Paynesville is having serious difficulties in collecting and disposing the massive wastes being generated on a daily basis by marketers along the project road. She also talked about flooding in the area as one of the mayor challenges confronting the Municipality, especially during the rainy season. She highlighted that noise and vibration generated during the construction phase of the project would create an added environmental problem in the vicinity of the project. These, she said, should be fully taken into account by the MPW for mitigation during the course of project implementation.

Regarding public utility facilities such as electric, water and telephone lines, Madam Gibson stressed the need for the MPW to closely coordinate its road activities with providers of these services so as avoid

damage to the facilities as well as preventing the situation where the completed road would have to be torn apart in order to run utility lines.

Madam Gibson wanted to know the timeline for the project activities and the total length of the project road. The length of the project road was given to her, but she was told that the project timeframe would be unveiled in stages as the work goes on. The IIU representative also informed the Mayor that IIU/MPW was coordinating with utility service providers to ensure that their services would not be disrupted by the construction works.

The Mayor ended her comments by encouraging the MPW to ensure that the Petty Trader Union is included as one of the key stakeholders in the project area.

MEETING WITH THE LIBERIA MARKETING ASSOCIATION AND THREE OTHER GROUPS

The meeting was held at Crown Hotel, Paynesville City at 2 pm on 5 April 2017 with four groups of stakeholders including (1) the Liberia Marketing Association, (2) the Federation of Road Transport Union of Liberia, (3) the Petty Traders Association, and (4) Motor Cyclist Association- Paynesville Branch. The meeting discussions were also based on the agenda referred to above. Views of the various stakeholders are presented below:

Liberia Marketing Association

The president explained that there is a need to carry out more public consultation regarding compensation payment and stress the need to properly demarcate the 25ft which GoL will allot for petty trader, should be documented to avoid future problem with Police. He told the participants that GoL should secure an alternative route, temporary spot for petty traders to sell during the construction period.

Federal of Road Transport Union Liberia

The FRTUL expressed concerns about the issues of parking space during construction, and requested GoL to allocate proper parking space to avoid any inconvenience. The IIU representative assured the FRTUL that their concerns will be addressed in the final road design.

National Petty Trader Union

The National Petty Trader Union told the participants that his organization comprises of three categories, petty traders, hawkers and street vendors. He explained those petty traders' needs to be properly relocated to allow civil works and assured that they are willing to relocate when compensated. He expressed concerns on waste management and dust emission. In response, the IIU representative informed the participants that these impacts will be addressed through the EMP.

Motorcyclists Association

The Motorcyclists Association expressed concerns regarding traffic safety. He suggested that a dedicated section of the road be provided for motorcyclists to avoid accidents. Regarding the issue of road safety, a representative of IIU clarified that the main objective of the project is to expedite traffic and ensure safety for all road users including motorcyclists.

MEETING WITH GENERAL PUBLIC AND PAPS

General Public and PAPS

A general meeting was held with Project Affected Persons (PAPs) and other road users on 6 April, 2017, at 9 am Crown Hotel, Paynesville. The discussions were based on the agenda for the other three meetings. The PAPs assured their support for the project. They however, expressed their concerns about environmental impacts such as vibration, dust emission, and flooding. They also requested that GoL carry out prompt compensation to allow them to relocate before the project commences. In response, the IIU representative explained that the revised EMP will address those environmental issues; he also assured the PAPs that GoL will provide resettlement compensation before requesting PAPs to relocate. The

meeting closed at 3:30 pm. The lists of participants at the meetings are attached, as annexes 1&2 to this minutes.

Annex 1: List of representatives of PCC, IIU/MPW and CEMMATS who attended the meeting

<u>NAME</u>	<u>POSITION</u>	<u>INSTITUTION</u>
Hon. Cevette Gibson	Mayor	Paynesville City Corporation
Augustine B. Kpakolo	-	Paynesville City Corporation
Robena Vincent	Director	Paynesville City Corporation
Johansen T. Voker	Environmental	Infrastructure Implementation Unit, Ministry of Public Works
Stephen K. Kolee	Social Safeguards Officer	Infrastructure Implementation Unit, Ministry of Public Works
James B. Walker	Environmental Assistant	Infrastructure Implementation Unit, Ministry of Public Works
L.J.T. Pratt	CEO	CEMMATS Group
Dr. Ralph Bona	RAP Consultant	CEMMATS Group
Mamadi Toure	Admin	CEMMATS Group
Eric Momolu	Assistant	CEMMATS Group
Joseph P. Negbe	Assistant	CEMMATS Group

Annex 2: List of representatives of LMA, FRTUL, NPTU, IIU/MPW and CEMMATS who attended the second meeting

<u>NAME</u>	<u>POSITION</u>	<u>INSTITUTION</u>
Johansen T. Voker	Environmental	Infrastructure Implementation Unit, Ministry of Public Works
Stephen K. Kolee	Social Safeguards Officer	Infrastructure Implementation Unit, Ministry of Public Works
James B. Walker	Environmental Assistant	Infrastructure Implementation Unit, Ministry of Public Works
L.J.T. Pratt	CEO	CEMMATS Group
Dr. Ralph Bona	RAP Consultant	CEMMATS Group
Mamadi Toure	Admin	CEMMATS Group
Eric Momolu	Assistant	CEMMATS Group
Joseph P. Negbe	Assistant	CEMMATS Group
Gbanylee P. Wah, Sr.	Rep.	LMA
Emmanuel Liyeem	Rep.	LMA
Yahah Kroman	Rep.	FRTUL
Francis Powel	Chairman	LMA
Theoclose G. Lymas, Sr.	Secretary	National Petty Trader Union
Beyan Z. Woi	Rep.	LMA