

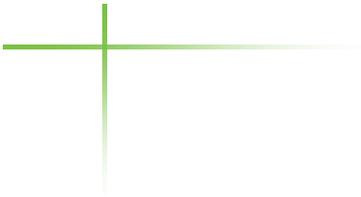
**USAID** | **LIBERIA**  
FROM THE AMERICAN PEOPLE

ENGINEERING SERVICES FOR RURAL ROADS  
REHABILITATION (ES3R)  
CONTRACT NO: EDH-I-00-08-00023  
YEAR 2, QUARTER 4  
PROGRESS REPORT (TO SEPTEMBER 2015)

15 October 2015

ES3R Quarterly Report – September 2015

The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the US Government.



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ROAD REHABILITATION (ES3R)  
CONTRACT NO. EDH-I-00-08-00023**

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**PROGRESS REPORT (To September 2015)**

**Prepared for: USAID/Liberia**

Prepared by: Francisco Perez  
Frederick Were-Higenyi

15 October 2015



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## Acronyms

A & E	Architect and Engineer
BOQ	Bills of Quantity
COP	Chief of Party
CO	Contracting Officer
COR	Contracting Officer Representative
ES3R	Engineering Services for Rural Roads Rehabilitation
ETL	Engineering Team Leader
EVD	Ebola Virus Disease
FED	Food and Enterprise Development
FTF	Feed the Future
FTL	Field Team Leader
F2M	Farm to Market
F2MRR	Farm to Market Road Rehabilitation
GIS	Geographic Information System
GOL	Government of Liberia
IWP	Interim Work Plan
LESSP	Liberia Energy Sector Support Project
LMWP	Liberia Municipal Water Project
LOE	Level of Effort
MCA	Multiple Criteria Analysis
MOF	Ministry of Finance
MPEA	Ministry of Planning and Economic Affairs
MPW	Ministry of Public Works
OCA	Organizational Capacity Assessment
PIRS	Performance Indicator Results Sheet
RE	Resident Engineer
SI	Site Inspector
USAID	United States Agency for International Development



# ENGINEERING SERVICES FOR RURAL ROADS REHABILITATION (ES3R)

YEAR 2, QUARTER 4, JULY TO SEPTEMBER 2015

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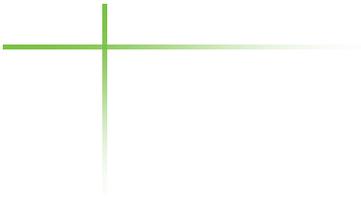
# 1. SUMMARY PROJECT DESCRIPTION

## 1.1 Introduction

The U. S. Agency for International Development's (USAID) 'Engineering Services for Rural Roads Rehabilitation (ES3R)' was awarded to Camp Dresser McKee International (CDM) under the following USAID contract number: EDH-I-00-08-00023 and task order AID-669-TO-13-00002 which records the period of performance as 8 October 2013 to 20 October 2015. The project was later amended by modification to extend the performance period to April 2016.

Liberia's Farm to Market Rural Roads (F2MRR) activity is allied to the objectives of the Feed the Future (FTF) initiative, which is a U.S. government initiative, aiming to address the root causes of global hunger by sustainably increasing agricultural productivity. F2MRR will provide infrastructure investment in the rehabilitation of rural farm-to-market roads to support the following:

- USAID /Liberia FTF program Food and Enterprise Development (FED),
- Capacity development for routine maintenance systems within the Government of Liberia (GOL),
- Capacity development of Ministry of Public Works (MPW) rural roads engineers and local A & E firms,
- Development of alternative low volume road pavement pilot projects, standards and design specifications.



## 1.2 Objectives

Within F2MRR, ES3R will be an implementing mechanism, which will undertake the following objectives:

### **Objective 1:**

Provide construction oversight for three (3) local contracts for the rehabilitation of a total of 83.5 kilometers farm-to-market roads in Bong, Lofa, and Nimba counties from 2013 to 2015.

### **Objective 2:**

Produce engineering designs and construction documents for the 450 kilometers farm-to-market roads in Bong, Lofa, Nimba, and Grand Bassa counties to be rehabilitated in 2015 to 2018.

### **Objective 3:**

Training and pre-qualification of five (5) local architect-engineer firms capable of providing oversight for road rehabilitation activities by 2015.

## 2. QUARTERLY OVERVIEW

This is the fourth quarterly progress report to be presented for Year 2 of the project. This report details the work plan for the execution of remaining project activities for the three components through completion of the project. The request to USAID to amend the contract with accompanying financial implications included a change in original scope of work in connection with the addition of 75 kilometers of construction oversight (through fourth calendar quarter 2015) and inclusion of a structural designing team for 14 bridges with spans greater than 10 meters.

Component 3 for capacity development of the five pre-qualified firms completed in the last month of the reporting period with a workshop to the principals of the five engineering firms, and the completion of the on-the-job-training for five junior engineers exposed to the construction sites and design field activities.

### 2.1 Quarter 4 Year 2 Highlights Summary

The table below summarizes key events undertaken (by month) in the operations of the project. Items of importance are detailed in the following table.

Date	Description	Comment
<b>JULY</b>		
<b>July 6, 13, 20 27, 2015</b>	Submittal of weekly updates	To USAID Liberia
<b>July 10, 2015</b>	Arrival of Mr. Javed Sultan to replace COP during personal holiday time	To USAID Liberia
<b>July 12, 2015</b>	Meeting with MPW Deputy Minister Jackson Paye on road design at Nimba County	Deputy MPW & ES3R team

<b>July 14, 2015</b>	Submittal of Quarterly Report for April-June	To USAID/Liberia
<b>Jul 16, 2015</b>	Project site meeting	USAID COR
<b>July 16, 2015</b>	Inauguration of Bong County road links in Phase I	Deputy USAID Mission Director-
<b>July 17, 2015</b>	COP vacation leave commenced and demobilization of the ETL	To USAID/Liberia
<b>July 17, 2015</b>	Approval of Contract Modification 4	From USAID, to CDM
<b>July 28, 2015</b>	Return of COP from leave to Monrovia County	ES3R Team
<b>July 1 thru 2, 2015</b>	Monthly site inspection and progress meetings in the Counties	USAID COR, ES3R team and contractor along with local MPW

Date	Description	Comment
	<b>AUGUST</b>	
<b>August 1, 2015</b>	Arrival of the Bridge Design Team Leader	To USAID/Liberia
<b>August 3, 10, 17, 2015</b>	Submittal of weekly updates	To USAID Liberia
<b>August 4, 2015</b>	Quarterly Rural Infrastructure Meeting with MPW and other stakeholders	USAID COR, Deputy Minister of MPW & CDM
<b>August 22 &amp; 24, 2015</b>	Submittal of weekly updates	To USAID Liberia

<b>August 12, 2015</b>	ETL and Nimba FTL proceeded on vacation leave respectively	To USAID/Liberia
<b>August 16, 2015</b>	Commencement of road, bridge and culvert design in Voinjama, Banga and Ganta	ES3R team
<b>August 25, 2015</b>	Start of workshop on Business Development for the Five A&E firms' principals and managers	To Five A&E firms
<b>August 31, 2015</b>	Conclusion of the on-the job training for the Five A&E engineers	To USAID/Liberia
<b>August 31, 2015</b>	Submittal of weekly updates	To USAID/Liberia

<b>DATE</b>	<b>Description</b>	<b>Comment</b>
	<b>September</b>	
<b>Sep 7, 14, 21 &amp; 28, 2015</b>	Submittal of weekly updates	To USAID Liberia
<b>Sep 18, 2015</b>	Meeting with all the ES3R field and project office staff on Anti-corruption and bribery in Bong County	ES3R Team
<b>Sep 18, 2015</b>	Meeting at Bong County on road, culverts and bridge design with FTLs and Acting ETL	ES3R Team
<b>Sep 24, 2015</b>	Meeting with USAID COR for bridge design status	USAID
<b>Sep 30, 2015</b>	ES3R Internal meeting with field and project office staff for standardization in Bid Documents when design is submitted to USAID	ES3R Team
<b>Sep 24, 2015</b>	Reception of Dr. Anthony Chan at US Embassy House as new USAID Mission Director to Liberia	USAID
<b>Sep 30, 2015</b>	Courtesy visit to the ES3R Project Office of the new USAID Mission Director	USAID



## **2.2 Quarter 4 Details of Highlights**

### **2.2.1 EVD Crisis in Liberia**

On 23 April, 2015, the Government of Liberia declared Liberia as Ebola free; this announcement significantly boosted the spirit of the population in the Country and in the project sites.

Even so, the Ebola Task Force Teams recommended a continued screening and vigilance at the Gbanga-Voinjama Road which connects Bong and Lofa Counties running parallel to the border line with Guinea. Within the borders of neighboring countries some cases of EVD are still registered during the reporting period.

Unexpectedly in the prior reporting quarter (June), three new cases of Ebola became known at Margibi County, with one resulting in a fatality. Reasons remain still unknown as to this cause of this flareup.

As a precautionary measure and continued significance of health and safety monitoring, , the ES3R project continues to enforce the medical screening procedures at the project office located at the premises of the Ministry of Works in Monrovia, as well as the site offices in Lofa, Nimba and Bong. The ES3R team continued to maintain a watchful stance during the prior quarter and is on alert for any adverse situation that may arise. The project team is prepared to take appropriate actions in order to protect project personnel in accordance with the established Health and Safety Plan.

## 2.2.2 Progress Meetings with USAID

Periodic meetings were held between the ES3R team and with the USAID Contracting Officer Representative (COR) at the project office in Monrovia as well as in the field sites.

## 2.2.3 Project Deliverables and Documentation

**Table of ES3R Communication Documents and Letters**

Communication		Date	Detail
From	To		
USAID	CDM	July 9, 2015	Review of 21 <sup>st</sup> Contractor IPC
USAID	CDM	July 10, 2015	Information on inauguration of Bong road Links –Phase I
USAID	CDM	July 13, 2015	Requesting to get confirmed list of guests to attend to Bong County road links’ inauguration
USAID	CDM	July 13, 2015	Information on timing of inauguration at Bong
USAID	CDM	July 15, 2015	Request to include in field topographic survey of Nimba County upon request from MPW
USAID	CDM	July 17, 2015	Approval from USAID to include Indicators as suggested by LMEP
USAID	CDM	Aug 11, 2015	Request for follow-up of various issues discussed in Banga meeting
USAID	CDM	Aug 13, 2015	Suggestion from USAID to get the Five A&E firms junior engineer to make a presentation on the on-the-job-learning
CDM	USAID	Aug 21, 2015	Information provided to USAID on temporary field staff arrangement

			due to vacation of one FTL and the ETL
<b>USAID</b>	CDM	Aug 26, 2015	Request for travel approval for Roberta Talmage, for Capacity Building Workshops in Monrovia
<b>USAID</b>	CDM	Aug 26, 2015	Information that USAID Mission Dep. Director would attend to the closure of Component 3 at Mamba Point Hotel
<b>CDM</b>	USAID	Aug 26, 2015	Briefing USAID on first day of activities of workshop on Roads to Business Development
<b>CDM</b>	USAID	Aug 27, 2015	Confirmation to USAID that there might be full attendance of the five A&E firms for the closure of Workshop
<b>CDM</b>	USAID	Sep 1, 2015	Notification to USAID COR on timing for Capacity Development's workshop closure
<b>CDM</b>	USAID	Sep 3, 2015	Confirmation to USAID on presentation of the Five A&E engineers' presentation at the workshop closure on Sep 4
<b>CDM</b>	USAID	Sep 7, 2015	No objection to SSF IPC No. 1
<b>CDM</b>	USAID	Sep 16, 2015	Information to USAID that Meeting on Anti-corruption and bribery would be conducted by CDM COP in Banga on Sep 18, 2015
<b>CDM</b>	USAID	Sep 24, 2015	Information on dates for progress review and road inspection at Nimba and Bong County
<b>CDM</b>	USAID	Sep 25, 2015	Informing USAID that on Oct 12 the joint design review workshop would

			take place at Mamba Point Hotel on one day
h <b>USAID</b>	CDM	Sep 28, 2015	Requesting to organize a meeting at high level for SSF and ES3R team to discuss the reasons why SSF have paralyzed all construction works at Lofa County
<b>CDM</b>	USAID	Sep 28, 2015	Explaining USAID that ES3R team was analyzing the impact on work program for suspension of works and notifying USAID that meeting had been set
<b>CDM</b>	USAID	Sep 29, 2015	Confirming participation of SSF General Manager and Dep. Project Manager to meeting scheduled for Oct 1 at MPW premises

The above Table of Documents and Letters are identified in chronological order with those communications of particular relevance to the progression of Works on the ES3R project during the reporting period noted.

#### **2.2.4 Field Visits to Counties Sites**

USAID Contracting Officer Representative (COR) and ES3R Team visited the construction sites in Nimba and Bong counties towards the tail end of September for the Quarterly site inspections and progress meetings. In addition, a site visit to Johnston road link in Lofa County took place for review and issuance of substantial completion of SSF's works as well as the handover of the new road link under modification to contractor.

The ES3R project will continue to provide oversight on these new packages until or around Oct-Dec 2015 under the Contract Modification 4, at which time we understand that a separate project will assume construction oversight.

### 2.2.5 Design of Roadway, Box Culvert and Bridge Works

The topographical survey, condition survey and intervention selection of all project roads in the four counties completed during the reporting quarter. Data entry was likewise completed and analysis and design of road links commenced.

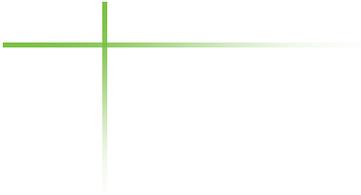
Similarly, field survey of all 33 box culverts and 14 bridges was also completed. Data entry analysis and designs subsequently commenced.

The completed surveyed roads total of 393.6 km is detailed by county in the below table.

Length of Road Links Surveyed

County	Road length (km)
<b>Bong</b>	57.8
<b>Grand Bassa</b>	139.3
<b>Lofa</b>	105.5
<b>Nimba</b>	91.0
<b>Total</b>	393.6

In addition to the above table, 75km of completed design package was delivered in October 2015 to USAID and is added for a total of 468km. The previously submitted 75 km's are now under construction in Phase –II allotted to the original contracts in Bong, Nimba and Lofa.



### **2.2.6 Revised Work Plan**

A revised work plan was presented to the USAID COR and other officers involved in ES3R project on 26 February 2015, and later resubmitted on 27 March after incorporation of comments by USAID (17 March 2015). That document included a narrative statement with a revised approach and strategy to complete the remaining activities and components. This work plan considered the impact of the EVD crisis, an additional 75-km of construction oversight, and induction of a structural team, as well as incorporation of additional capacity building and training within the Ministry of Public Works, and their logistical support with rented vehicles. During the reporting period execution of this work plan continued.

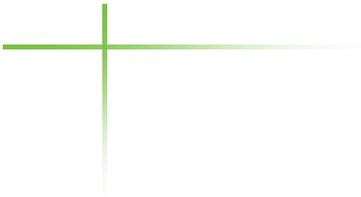
Project Management still intends to have draft designs for most of the road links, box culverts and all large bridge structures completed by December 2015 or January 2016. This approach accommodates that several key positions are schedule to close and demobilize by year end.

### 3. PROJECT OBJECTIVES PROGRESS

#### Objective 1 – Construction Oversight

As of the end of September 2015, the general progress of each of the contracts is summarized as follows:

Description	Bong, Westwood Corp	Lofa, SSF	Nimba, 21 <sup>st</sup> Century
<b>Contract Award, initial scope</b>	22 Jan 2014	27 Jan 2014	22 Jan 2014
<b>Award modification scope</b>	7 April 2015		7 April 2015
<b>Contract period completion, initial scope</b>	16 months	16 months	16 months
<b>Maintenance and defects liability period, initial scope</b>	8 months	8 months	8 months
<b>Modification scope to complete</b>	12 months	12 months	15 months
<b>Maintenance and defects liability period, modification scope</b>	8 months	6 months	8 months
<b>Extension of time due to EVD</b>		3 months	
<b>Time Elapsed to date, initial scope</b>	101%	Completed	Completed
<b>Time elapsed, modification scope</b>	33%	17%	33%
<b>Completion date for construction, initial scope</b>	22 May 2015	27 Aug 2015	26 Aug 2015
<b>Completion date for construction, modification</b>	6 April 2016	-	6 April 2016
<b>Overall Assessed Completion, %</b>	May 2016-	July 2016-	May 2016-
<b>Initial Contract Value</b>	1,895,141.86	592,384	843,228.25
<b>Modification scope</b>	<u>1,861,722</u>		<u>2,183,507</u>
<b>Total (USD)</b>	3,756,864		3,026,286
<b>Value of works certified to date, initial (USD)</b>	1,138,663	578,706	556,530.49
<b>Modification scope (USD)</b>	1,861,792	1,562,043	2,183,507



All three Contractors received modifications to their contracts in the prior reporting periods. The initial 75 km of design delivered to USAID last October 2014 were allotted to ongoing contractors as Modifications to their original contracts: SSF, 15.2 km; Westwood, 31.6 km; and 21<sup>st</sup> Century, 28.2 km.

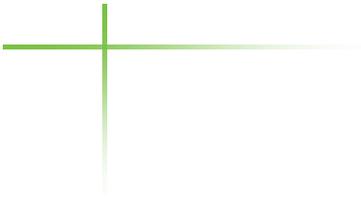
During the reporting quarter, all Contractors submitted requests for substantial completion inspection for their initial works scope. The roads links were inspected, a snag list prepared, and substantial completion certificates issued to Contractors at Lofa, Nimba and Bong.

Seasonal rains became progressively more intense and frequent as the reporting period progressed. All Contractors were impeded as a consequence of seasonal rains and constructions work progress has been delayed.

**Bong:**

Westwood was contracted in January 2014 for works in Bong County and scheduled for substantial completion by 22 May 2015. The initial scope was substantially completed in August 2015. A Contract Modification was awarded on 7<sup>th</sup> April 2015. The new scope of work includes improvement of a total of 31.6 km on two roads, namely: Yaylota-Yendewoun road (14.1 km); and Gbondoi-Gbarnla (17 km).

The modification scope of work was granted on the basis of a technical proposal that indicated the mobilization of additional technical staff and that the works/progress on the original scope not to be compromised.



To date the additional staff has been fully mobilized. The progress on the Gbondoi – Gbarnla road link includes site clearing works up to chainage 16+000; road formation up to chainage 6+800 and installation of RCP culverts at chainage 9+500, 9+840 (completed), chainage 12+225, and 12+425. Site clearing along Taylorta road was done at chainage 8+933.

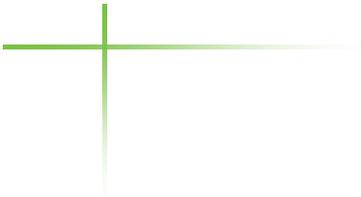
### **Nimba:**

The Contract for the initial scope of work was awarded to 21<sup>st</sup> Century on 22 January 2014 for a period of 16 months to be completed in May 2015. The contractor continued to be hampered by frequent equipment breakdowns and extended delays in the procurement of spare parts during the construction phase. Major cash flow constraints further impacted progress. Concreting works on Lea Bridge were completed. The Contractor was judged to have completed the contracted initial scope works on 30 September 2015. After inspection the contractor was accordingly issued with a substantial completion certificate, including a snag list detailing the pending minor works.

21<sup>st</sup> Century was awarded a contract modification on 6<sup>th</sup> April 2015 on condition of immediate start of works and without compromise to the initial scope activities. The modification scope includes rehabilitation of:

- Gogein – Zuaply – Doumpa Rod – 22.1 km
- Garopa – Garwoumpa Road – 5.6 km

By the end of the reporting period the progress on the modification scope of work was 15%. The contractor had fully mobilized on site and on-going works included site clearance (58%); heavy grading (4%); gravelling (10%); reshaping (100%); and culvert installation (25%).



The challenges reported by the contractor include: heavy rains that have hampered executing earthworks; and poor road access to Gogei-Doumpa-Zuaplay and Gaopa-Garwompa road sites also due to monsoon activity.

**Lofa:**

SSF was awarded Modification of Contract in July 2015 due to a delay in SAM registration; works in phase –II started late compared to 21 Century and Westwood Corporation. Works at Johnston– Bulor Road, 15km road link is undergoing though quite slow due to the intensive seasonal rains in the construction area.

The estimated physical works stands at 9.2%. The primary activity performed during the reporting period was site clearing executed for the entire road length.

### **3.2 Objective 2 – Design and Contract Documents**

#### **Road Design/Road Field Surveys**

The survey team completed survey and translating field data for all road links totaling to 393.6 km in the four counties. This is in addition to the already completed and submitted 75km package. The analysis of new data and designs commenced during the period under review. The status of designs in as summarized below.

## Summary of Surveyed roads and design

County	Completed Survey (km)	Design of strip maps (km)	Prepare Tender Documents (%)
Lofa	105.5	12.2	12
Nimba	91.0	22.0	24
Bong	57.8	0.0	0
Grand Bassa	139.3	10.8	8
<b>Total</b>	<b>393.6</b>	<b>45.0</b>	<b>11</b>

Details of the initially delivered design are shown in below table

County	District	Road Link	Road Classification	Length km
Bong	Suokoko	Gbondoi –	Feeder	17.5
		Gbarnla		
	Yealequelleh	Taylorta Marionta – Nyan Yendewound	Secondary	14.1
	<b>Total</b>			<b>31.6</b>
Nimba	Saclepea	Gaopa	Secondary	5.575
	Mahn	Garwompa		

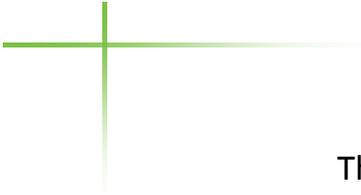
	Tapita	Dounpa Zuaplay	-	Feeder	10.8
		Gogein Zuaplay	-	Feeder	11.4
	<b>Total</b>				<b>27.7</b>
<b>Lofa</b>	Voinjama	John's Bulor	Town	Feeder	15.0
	Total				15.0
<b>Grand total</b>					<b>74.3</b>

### 3.3 Objective 3 – Training and Capacity Building

#### A & E firm Trainees

AE trainees were deployed to the construction sites in the Counties to participate for the planned on-the job training and were exposed to various disciplines in construction oversight such as bridges, culverts, earthworks, revetment works and random checking of spots quality. In addition, they participated in field surveys to include topographic, hydrological and geotechnical in preparation for road and culverts design. The participation of the five engineers from the five Engineering Firms was active with intensive teaching-learning conducted by the ES3R Field Teams. The trainees completed a period of 3-4 months counted from May 2015 until end of August.

Continuous assessments of the mentor program were undertaken during the training period to monitor progress. All trainees demonstrated a very positive attitude and interest towards the program.



The selected trainees rotated field assignments to ensure maximum exposure to field work activities.

All trainees presented a overall program presentation during the last workshop to their respective A&E firm management (September).

During the same workshop, the final ES3R Capacity Building workshop on Business Development was held from 25 August to September 4.

### **MPW Feeder Roads Engineers**

Four MPW Feeder Road Engineers have been temporarily assigned to the ES3R project to support the construction oversight and design packages. This approach is similar to the AE mentor program to promote skills transfer to local Liberians. These four engineers are under training and assisting design works for roads, and culverts as well as providing assistance to construction oversight.

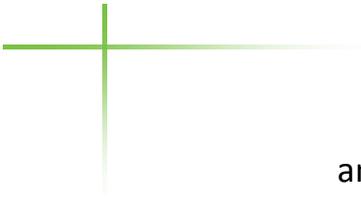
### **Resident Engineers (REs)**

It is now considered that the REs in Bong, Nimba and Lofa are sufficiently acquainted with the survey process to manage day to day survey verification and construction oversight.

We consider this advancement of RE capabilities, gained through work on the project to be a significant accomplishment. This knowledge transfer is in line with our capacity building objectives established at the beginning of the project.

### **Site Inspectors (SIs)**

With the promotion of Bong RE to FTL, the site inspector of works has been automatically elevated to the post of RE as envisaged in Inception Report. Mentoring of the promoted RE has been intensive



and successful taking into consideration that he has been in the same team from inception.

### **3.4 Performance Management Plan - PIRS**

The Performance Indicator Reference Sheets (PIRS) related to the progress of the ES3R project are included in Annex B of this document.

## 4. PROJECT CHALLENGES

The following items have been encountered during the course of the project and pose challenges to the ES3R team and project:

Challenge / Issue	Mitigation / Resolution
<b>All contractors are struggling with the design / build contract model, thus require much support in preparation of submittals.</b>	ES3R has to offer additional time of support to contractors in order that compliance be achieved and progress achieved.
<b>The lack of capability of local contractors required that excessive time spent by FTL's in guidance and mentoring process.</b>	ES3R must strike a balance between formal mentoring of contractors and progression of survey and design works required.
<b>MPW Specification contained in Feeder Roads Manual is inconsistent with USAID/Liberia conditions of contract.</b>	A modified Specification is now consistent with conditions of contract. Prior to next solicitations.

## 5. WORK PLAN FOR NEXT QUARTER

Field teams are in place in the three working counties for construction oversight and design with overall coordination of the Engineering Team Leader and Chief of Party.

### **Objective 1: Construction Oversight**

All field teams will continue to provide construction oversight and mentoring of contractors during the defects Liability Period of the substantially completed 84-km package and on-going rehabilitation 75 km under the modification scope of work.

### **Objective 2: Design and Contract Documents**

The ES3R team will continue with data analysis and design of road links, box culverts and bridges during the next quarter. Two teams will continue to design the Lofa/Nimba and Bong/Grand Bassa road links while the box culvert team and bridge team will continue to design the drainage structures and preparation of tender documents. It is anticipated that most of the draft designs, strip maps, drawings and tender documents will be in place by end of the upcoming quarter.

### **Objective 3: Training and Capacity Building**

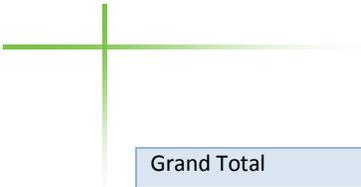
This Component of in the contract has been contractually completed at the time the last workshop facilitated by CDM (Sep 4, 2015). Evaluation and report have been also completed and will be inserted in Final report.

The placement of MPW Feeder Roads Engineers with ES3R teams will continue in the coming quarter. It is understood that MPW engineers will be engaged with ES3R for 4 months effective July 2015.

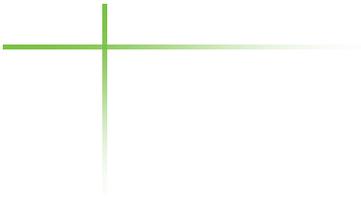
## 6. FINANCIAL REPORT

Financial Expenditures for the project to end of the quarter are shown in the below table:

Row Labels	Sum of RAW COST		TOTAL Cost
01-Auto - A/P	72359.35		72359.35
01-Mileage - expense	16.81		16.81
02-Entertainment - A/P	598.05		598.05
03-Room - A/P	126918.49		126918.49
03-Room - expense	8688.3		8688.30
04-Park, Toll, Taxi - A/P	39851.7		39851.70
04-Park, Toll, Taxi - expense	141.36		141.36
05-Prints - A/P	216.6		216.60
05-Prints - expense	87		87.00
06-Supplies - A/P	194028.76		194028.76
06-Supplies - expense	110		110.00
07-Miscellaneous - A/P	136050.17		136050.17
07-Miscellaneous - expense	1000.06		1000.06
08-Telephone - A/P	9064		9064.00
08-Telephone - expense	58		58.00
09-Car Rental - A/P	1875		1875.00
09-Car Rental - expense	350		350.00
10-Air Fare - A/P	11669.02		11669.02
10-Air Fare - expense	18718.4		18718.40
11-Outside Professionals	2338436.68		2338436.68
12-Computer - A/P	31898.2		31898.20
19-Shipping, Postage - A/P	1284.49		1284.49
24-Field Equipment - A/P	50750.7		50750.70
26-Auto - expense	170		170.00
28-Overnight Delivery - A/P	29.45		29.45
30-Meals - A/P	49438.21		49438.21
30-Meals - expense	4841.78		199159.54
45-Business Conference	75.3		75.30
Labor	105607.48	194317.76	299925.24
Labor Local	406780.94	748476.93	1155257.87
Overseas Differential - ODC	61705.92		61705.92
Overtime	60.92		60.92



Grand Total	<b>3672881.14</b>		4737634.25
		Fee @ 7.5%	355322.57
		<b>Inception to Date</b>	<b>5,092,956.81</b>



# **ANNEX A**

## **ES3R NARRATIVE**

**And**

## **YEAR 2 WORK PLAN**

## Year 2 Work Plan Narrative

This section of the work plan narrative is composed of 3 sub-sections.

1. Summary of activities undertaken since the submission of the Inception Report
2. Balance of works remaining as of February 2015
3. A strategy for the delivery of project outputs

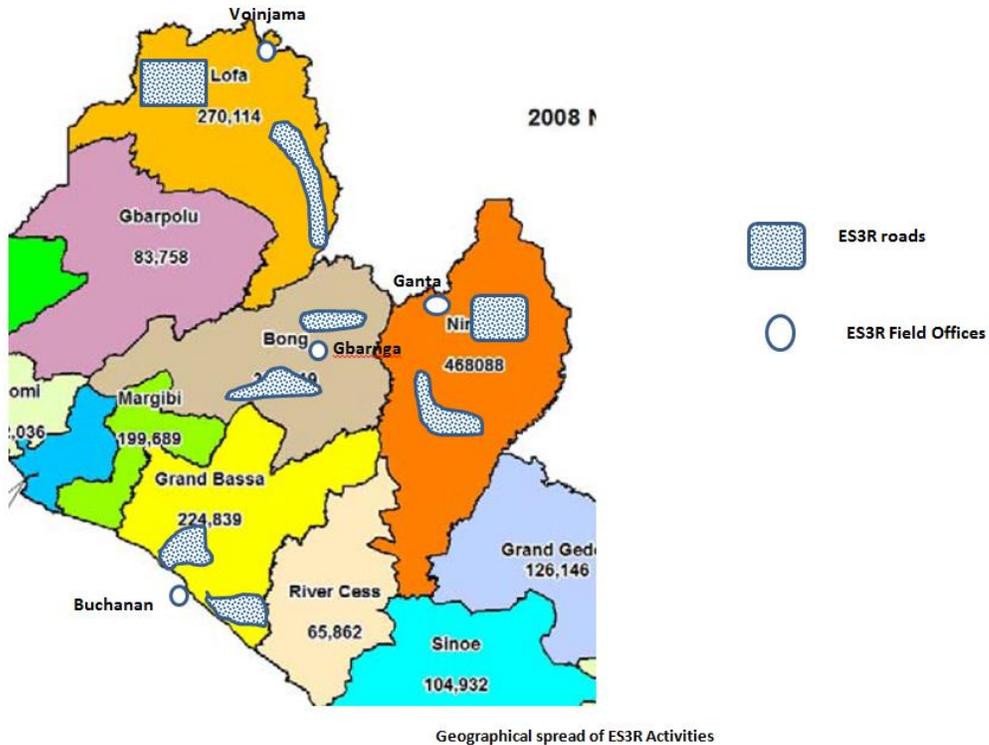
Each sub-section is further divided into component 1 and component 2.

### 1. Summary of Activities March 14 – February 2015

This section summarizes activities from the commencement of field works in March 2014 until February 2015.

The illustration below indicates the geographic spread of the ES3R activities for the remainder of the project life.

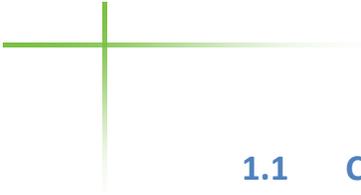
An inherent characteristic of field-based activities has and will continue to be long journey times and challenging road conditions. Figure 1 illustrates the range of the Project sites.



**Figure 1. ES3R activities**

The ES3R field team structure proposed in the Inception Report is composed of 3 teams. Each team is composed of three engineers, a Field Team Leader (TCN), a Senior Engineer (national), and a Site Inspector, (national).

Field Team Leaders and Senior Engineers were mobilized and orientated by end of March.



## **1.1 Component 1. Construction Oversight**

### ***Quality Assurance Contracting (March – July 2014)***

The contracting mechanism by USAID for the initial road improvement contracts was a ‘design and construct’ model.

Contractor’s contracts indicated that ES3R provide ‘full time construction oversight’ and ‘on site mentoring’ to assist Contractor’s project management with its design submission and subsequent construction management.

The ES3R contract states ‘periodic field missions’.

The extra level of effort expended on ‘on site’ mentoring impacted the identification of 450 km of ‘road links for Component 2.

## **1.2. Component 2 – Road Design**

This component can be divided in the 3 distinct activities

1. Identification of 450 km of road links selected for detailed design
2. Field surveys on each of the road links
3. Detailed design of road links based on data collected in the field surveys.



### *Selection of Roads - (April – June 2014)*

ES3R devised a 'road link' selection tool based on a combination of cost effectiveness and socio- economic benefits. This replaced the Cost – Benefit Analysis suggested in the ES3R contract.

The outputs are indicated in table 1 below. The table is extracted from the Prioritization Report submitted as a part of the October '14 Design Report.

County	Roads Under contract	Rapid assessment survey	Prioritization outputs	Detailed Design of prioritized road links	
				July'14 - Sept '14	Oct '14 - Sept '15
	Jan '14 - Dec '15	April'14 - May '14	June '14	July'14 - Sept '14	Oct '14 - Sept '15
<b>Bong</b>	49	261.6	88.3	31.6	56.7
<b>Nimba</b>	21	302	117.4	27.7	89.2
<b>Lofa</b>	14	199.2	120.7	15.0	105.3
<b>Grand Bassa</b>	0	239.4	136.7	0	136.7
	84 km	1002.2 km	463.1 km	74.3 km	387.9 km

**Table 1. Summary of Design outputs as envisaged July 2014**

***Field surveys of prioritized road links (June – July 2014)***

Field surveys commenced as soon as the County prioritization workshop had been completed.

***Road Design of 74 km (August – October 2014)***

All teams were withdrawn from field activities (components 1 and 2) in early August as a consequence of EVD. Component 3 scheduled to commence in September 2014 was suspended.

A Design Report for 74.3 km was submitted on 25<sup>th</sup> October 2014.

Table 2 below illustrates the composition of the Design Report.

County	District	Road Link	Road Classification	Length km	Large R.C. drainage structures
<b>Bong</b>	Suokoko	Gbondoi – Gbarnla	Feeder	17.5	
	Yealequelleh	Taylorta Marionta – Nyan Yendewound	Secondary	14.1	3
	<b>Total</b>			<b>31.6</b>	
<b>Nimba</b>	Saclepea Mahn	Gaopa Garwompa	Secondary	5.575	
	Tapita	Dounpa - Zuaplay	Feeder	10.8	5
		Gogein - Zuaplay	Feeder	11.4	
	<b>Total</b>			<b>27.7</b>	
<b>Lofa</b>	Voinjama	John’s Town Bulor	Feeder	15.0	1
	<b>Total</b>			<b>15.0</b>	
<b>Grand total</b>				<b>74.3</b>	<b>9</b>

**Table 2. Breakdown of Design Report Submission Oct 2014**

***Remodeling MPW standard documentation (August – October 2014)***

MPW has a set of Standard Documents, March 2012. These are composed of, standard drawings and technical specifications. These documents were to be used as the basis for all ES3R detailed designs.



However, it became apparent that the standard documents had never been utilized to previous projects so to measure its effective application. The documents possess significant inconsistencies and irregularities, such their usefulness limited.

To rectify this deficiency ES3R undertook:

- a. Lobbying for MPW recognition of the limitations of current package of MPW standard documentation.
- b. Reworking all standard design drawings and construction details
- c. Reworking of Method of Measurement and Bill of Quantities
- d. Reworking and expanding on MPW's Technical Specifications

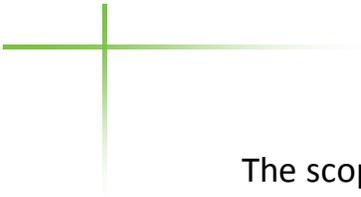
The 74.3 km design submission has been designed, quantified and presented using the remodeled standard documents.

## **2.2 Road Design of the outstanding 387 km**

### ***Road Design in Clusters***

The prioritization workshops held in each of the four Counties generated a total of 386 km of road links. The road links vary in length from 8.6km – 46.3km. To facilitate ease of packaging the road links into suitable and convenient contract sizes, links have been grouped into clusters in each County.

Lengths and geographical fragmentation of the Clusters varies.



The scope of work in the recommended range of cluster sizes permits large, medium and small road contractors with the opportunity to bid on tendered packages. Clusters can be combined or split as necessary.

### ***Box Culvert Design (35 nr) in 393 km***

During the rapid assessment, April May '14, 35 multi-cell box culverts were provisionally identified as required within the 387 km.

Each of these structures must be individually tailored to suit the river/road crossing point. The exact size and configuration of the structures can only be determined after detailed topographic and hydraulic surveys.

Eight box culvert locations were surveyed and outputs assessed during the design of the 74.3 Km. Hydraulic assessments at these crossing points reveal the adjacent river systems to be complex with existing water crossing points determined by the construction of road embankments either side of the crossing point. Very few are natural courses. Analysis of river characteristics required, to ascertain the optimum size, configuration and location of the new structure therefore requires considerable expertise.



### ***Large Bridge Design (14 nr) in 467 km***

The rapid assessment identified 14 river crossing points that strongly indicate a bridge with a clear span exceeding 12m as an optimum crossing structure. Such structures lie beyond the current scope of works.

Detailed topographic and hydraulic assessment is needed before selecting a crossing structure.

It is assumed for the purposes of this report that 14 bridges are required.

## **2. Strategy for Delivering ES3R Project Outputs - March 15 – Feb 2016**

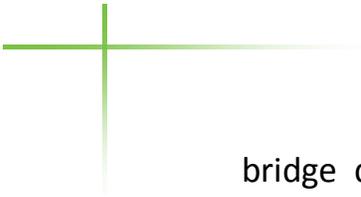
ES3R is proposing the following strategic resource allocation as the most efficient and effective means of project output delivery.

The implementation of this plan will be undertaken in collaboration with MPW counterparts at the National and County level.

### ***Suggested Project Team Structure Revision***

ES3R is proposing 6 teams to undertake the balance of works between March 2015 and February 2016.

This structure permits maximum specialization through the division of labor. This structure also permits A & E trainees involvement with a team whose activities focus on a specific topic i.e. road design, culvert design and



bridge design, and environmental mitigation as the trainees move from team to team.

The proposed structure therefore produces greater productivity and concurrently creates a more coherent and focused training/learning environment.

### **3.1. Component 1: Construction Oversight Team (March 2015– February 2016) 84 km + 74.3 km**

The additional 75km designed during August – October has been prepared using the remodeled documentation.

During the period March to June the ES3R field teams will therefore be overseeing two ‘road clusters’ in their respective Counties, the original 84 km and the proposed 75 km. The additional works in all three Counties are remote from the original road links.

Motorcycles are not considered suitable form of transport due to the long distance between the clusters. Rented vehicles are proposed as site transport until such time as the original 84 km of road links are substantially complete. This is anticipated to be until the end of June 2015.

Contractors are expected to work a 6-day week until rains in July/August become debilitating and severely impede progress. Between March and



June it is proposed to have a 6-day working week and the SIs paid accordingly.

It is expected that A & E firm trainees join the ES3R team during this active period. Field Team Leaders will be required to visit sites once a week to ensure contractual compliance and manage site progress meetings.

SIs will revert to a conventional 5-day working week, once contractors have reduced construction activities due to rains.

USAID anticipate that its FRAMP program will be active between October and December 2015. It is anticipated that component 1 will be handed over during this transitional period.

### **3.2. Component 2 Road Design**

*Teams 2 & 3: Lofa and Nimba 196 km, Bong and Grand Bassa (194 km)  
March 2015 – February 2016*

#### **March – July 2015 Field Surveys**

It is proposed that a single team undertake road designs for Lofa and Nimba. Likewise with the Bong and Grand Bassa Team, two counties covered by one team. Productivity of the field surveys is linked to time available in dry season 2015. This is assumed to be March – July. Trainees will be assigned to both teams during this period.



USAID has requested that MPW second 4 Feeder Road Engineers to ES3R for the balance of the project life. The engineers will supplement the road design teams. It is envisaged that the MPW engineers be exposed to ES3R's feeder road design methodology during field surveying April – July.

The engineers will be allocated to each of the four ES3R teams: road and culvert survey x2, box culvert survey and the environmental/community team.

Efforts are now underway identify, interview and sensitize selected candidates.

With the benefit of a recent Component 3 workshop 12 – 14 March 2015, specifically focused on the role, relationships and responsibilities of mentors and mentees, ES3R is now more able to accurately predict and quantify time required for effective skill enhancement for the junior engineers from both MPW and private sector.

The project will have 9 such engineers as from April 2015.

To permit the anticipated LOE expended on skill transfer during the critical field survey period, April – July, ES3R proposes to mobilize a specialized survey firm.

The survey firm will focus on topographic surveys needed for Grand Bassa, to a lesser extent Bong and proposed bridge sites.



While every effort will be made to substantially complete field surveying before the onset of the rainy season (the mobilization of the survey firm is intended to do just this), this cannot be guaranteed. The onset of early rains, road and bridge conditions and other unforeseen circumstances will ultimately determine survey outputs.

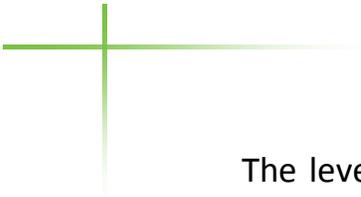
However, it should be noted that while any delay will impact the design delivery schedule, it will not have any impact on the proposed F2MRR procurement program of road improvement contracts. It should be further noted that surveys for road links that are unavoidably postponed until after rainy season will benefit by capturing deterioration of the road link caused by the rainy season.

Target outputs for field survey are 10 km/week/team.

### **August 2015 – March 2016 – Detailed Design**

The teams move to Monrovia for the detailed design stage. Using Monrovia as the detailed design center offers MPW engineers the opportunity engage the design activities. A & E firm trainees will be exposed to the design process from data entry to contract packaging.

Target outputs for detailed design are set at 8 km/week/team.



The level of detail of the 387 km designs is not anticipated being equal to the level included in the 74.3 km presented in the Design Report, October 25, 2014, but still within the contractual frame.

However; any omitted detail in the conceived contractual design may be easily generated/supplemented by Contractors with the support of an adequately qualified supervision team.

In order to maintain the expected competence of the designs it is proposed that the teams continue to be managed by TCNs.

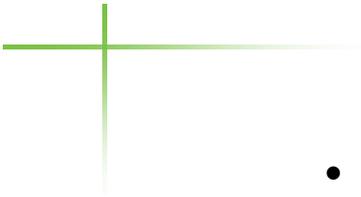
#### *Team 4: Box Culvert Design Team -*

Eight box culverts were designed for the 74.3-km submission.

A further 35 similar structures are anticipated.

<i>Engineering Field Survey Teams (teams 2, 3 &amp; 4)</i>	<i>Construction Oversight (team 1)</i>
--	--

- ES3R's 6 teams offer 5 different feeder road related subjects,
- Topographic surveying,
- Contract documentation
- Compliance testing and inspection
- Quality control techniques

- 
- Tacheometric surveying
  - Hydraulic surveying
  - Hydraulic assessment
  - Carriageway defect assessment
  - Engineering materials sampling and classifying
  - Site communications
  - Construction Site reporting
  - Monthly reporting
  - Monthly measurement activities
  - Stakeholder engagement at construction phase

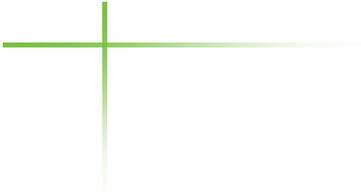
*Environmental Management and Community Engagement (team 6)*

- Developing an environmental management plan
- Monitoring the plan
- Managing the plan
- Stakeholder engagement at the planning level

*Detailed Design (teams 2, 3, 4 and 6)*

- Intervention selection
- Preparation of strip maps
- Quantification of interventions
- Preparation of detailed drawings
- Preparation of Bills of Quantities
- Unit Rate Analysis

It is anticipated that by the end of each trainee's exposure's time to both field and office based activities each will have a fundamental comprehension of all aspects of the feeder road design process and construction oversight.



## *Institutional Training*

**Capacity Building** is considered here as one of the main types of Capacity Building efforts, along with human Capacity Building; both are closely inter-related and complement each other.

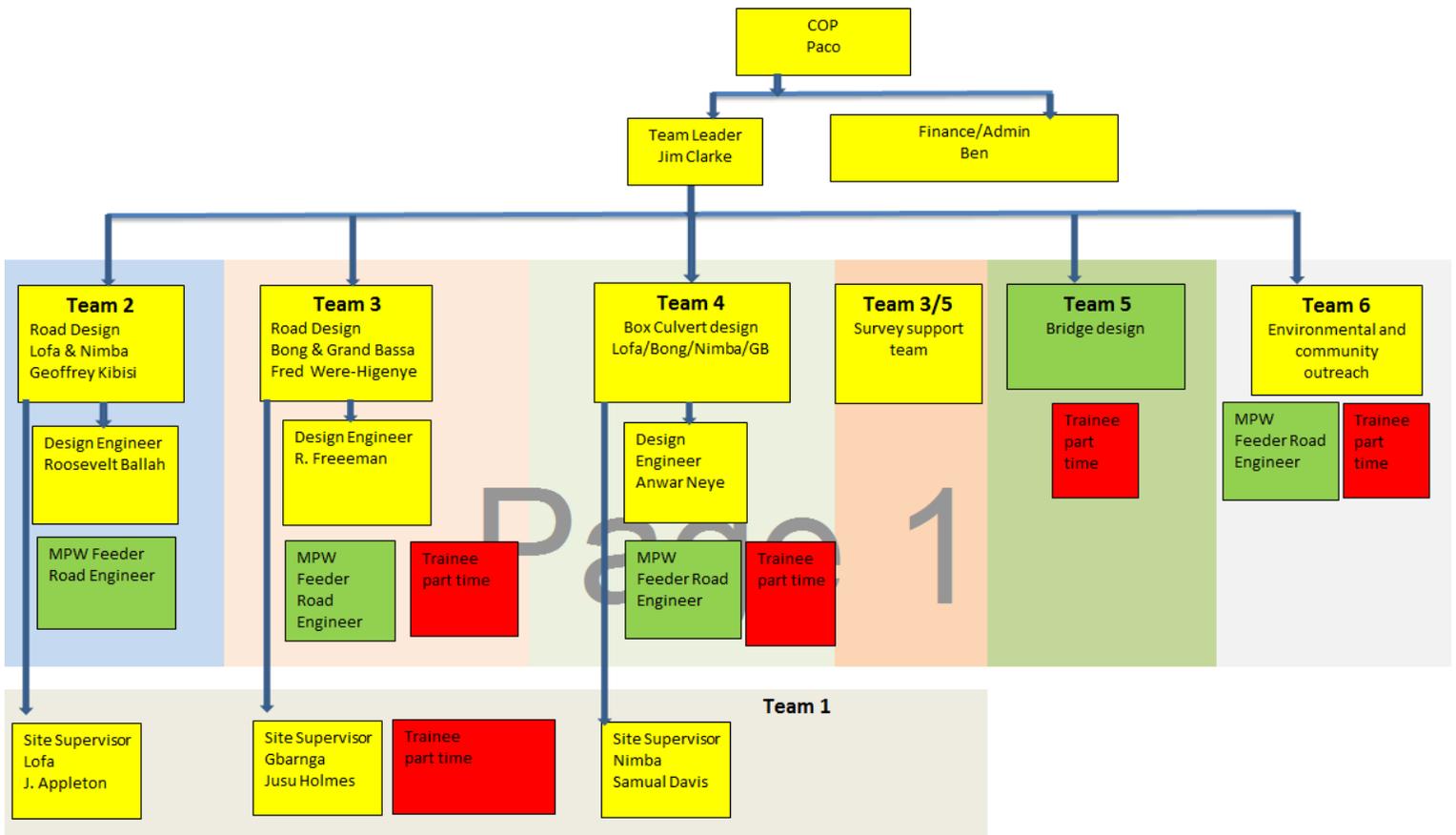
Institutional Capacity Building addresses the Capacity beyond the provision of education and training of professionals. It aims to enhance the capacity of governments, business, non-governmental groups and communities to plan and manage the coast efficiently and effectively.

There are several dimensions regarding institutional development according to the desired level, such as for executives of the E & A Firms.

TRG Workshops No. 1&2 were focused on field engineering strategies and on Institutional training held in the third week of March by TRG expert assisted by the ES3R team.

The attendees to these Workshops with a duration of 3&4 days respectively, were addressed to junior engineers belonging to the E&E firms; and the second workshop, to owners/managers to whom were shown the different tools for identification of technical and administrative staff that in the near future may be able to prepare technical and financial proposals, management of resources human and materials for design and construction supervision of engineering works, stressing on the communication area.

The trainees were also aided with the different management techniques to execute in a sound engineering way the management in consultancy contracts.



## August 2015- March 2016 – Detailed Design

Detailed design will take place in Monrovia project Office.

### *Team 5: Bridges in Lofa, Nimba, Bong and Grand Bassa (March - December 2015)*

ES3R propose to engage the services of an experienced bridge design team. The key persons in the team are: qualified Bridge Engineer and an experienced auto-CAD Technician.

The Bridge Design Team will undertake:

- Hydraulic assessment,
- Materials investigation
- Hydraulic design
- Foundation design
- Structural design of sub and super structure
- Preparation of Bills of Quantities and cost estimates for each structure

It is anticipated that 13 days are required for each structure, 5 days for field assessments and 8 for the design and quantification.

The field works are scheduled to complete by end of the current dry season, with the assumed 6-day working weeks.

Detailed design will take place in Monrovia. This arrangement offers similar advantages for A & E firm trainees to teams 2, 3 & 4.

### ***Team 6: Environmental Issues and Community Engagement***

The ES3R environmental specialist is programmed to visit the Project in April 2015. She will assist the Project in identifying a suitable candidate for a full time position as Environmental/Community outreach Officer who will be properly trained and instructed to continue the environmental mitigation measures as part of the project.

The environmental Specialist will prepare a scope of work for the proposed new position and introduce and orientate the person regarding the Programmatic Environmental Assessment Report and Environmental Monitoring and Mitigation Plans as it pertains to the Project.

The role of the Environmental/Community Consultation Officer is twofold:

- Environmental Impact mitigation
- Community Outreach

The officer will support the field survey assessments, ensuring that design interventions are environmentally friendly, that potentially impacted eco systems adjacent to the road links are recorded and EMMPs formulated accordingly.

The officer will ensure that roadside communities are sensitized regarding both road design surveys and future road improvement contracts.

The environmental/community outreach officer will engage with traditional and administrative leaders ensuring that all beneficiary stakeholders are informed of and agree to roles and responsibilities of all implementing agencies.

It is envisaged that trainees will be introduced to issues and mitigation measures as they relate to environmental impact and community engagement on road improvement activities.

### **3.3 Component 3, Capacity Building**

The 5 A & E firms selected in February 2014 have been contacted. All five have expressed their interest in continuing with the program.

#### ***Technical Training***

After completion of Workshops mentioned in previous section, outputs were orientation, training agreements and a 'on the job' training schedule... ES3R field staff and A & E firm site engineers now have a competent understanding of the mentor/mentee relationship and the dedication required to realize meaningful and lasting skill development.

Each A & E firm is allocated approximately 8 months; 4 months in all in-field activities (survey, road and culverts' construction oversight, etc.) and, four of which months will be field based and the balance 4 months in the Monrovia design office.

**ENGINEERING SERVICES FOR RURAL ROADS REHABILITATION (ES3R)**

**ANNEX B**

**PERFORMANCE INDICATOR**

**REFERENCE SHEETS**

**Updated to the year 2015**

## PERFORMANCE INDICATOR REFERENCE SHEET FOR FIELD SURVEYS

YEAR	PROVISIONAL				ACTUAL				NOTES
	BONG	LOFA	NIMBA	GRAND BASSA	BONG	LOFA	NIMBA	GRAND BASSA	
2013	0	0	0	0	0	0	0	0	Base Year
2014	150				31.6	15.4	28.2	0	Sub-total <b>75.2Km</b>
2015	300				57.8	105.5	91	139.3	Total for the four Counties in the year 2015: <b>393.6 Km.</b> <b>Grand total in the project: 468.8 Km</b>

## Performance Indicator Reference Sheet

<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>			
<b>Name of Intermediate Result: N/A</b>			
<b>Name of Indicator: Length of Rehabilitated farm –to-market roads completed</b>			
<b>Geographic Focus: Bong, Lofa and Nimba</b>			
<b>Is this an Annual Report indicator?</b> No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___			
<b>DESCRIPTION</b>			
<b>Precise Definition(s):</b>			
<b>Unit of Measure: Kilometer</b>			
<b>Method of Calculation: Measure of length of roads</b>			
<b>Disaggregated by: None</b>			
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
<b>Data collection method: Driving along the roads</b>			
<b>Data Source: Project sites</b>			
<b>Method of data acquisition by USAID: Reporting</b>			
<b>Frequency and timing of data acquisition by USAID: Annual</b>			
<b>Estimated cost of data acquisition: Included in project cost</b>			
<b>Individual responsible at USAID: David Wounuah</b>			
<b>Individual responsible for providing data to USAID: Francisco Perez</b>			
<b>Location of Data Storage: PIDS</b>			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment: N/A</b>			
<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: Regular Check</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
Year	Target	Actual	Notes
2013	0	0	
2014	83.5	0	Due to EVD, target not achieved
2015	160*	83.5	Substantial completion by July 2015 original 83.5
2016	160	By new project	
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

\*ES3R will provide technical and oversight support to Dec 2015 as requested by USAID in modification 4.

<b>Performance Indicator Reference Sheet</b>			
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>			
<b>Name of Intermediate Result: Construction oversight provided for Local Contracts</b>			
<b>Name of Indicator: Length of road that has construction contract for rehabilitation awarded and in place</b>			
<b>Geographic Focus: Bong, Lofa and Nimba</b>			
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___</b>			
<b>DESCRIPTION</b>			
<b>Precise Definition(s):</b>			
<b>Unit of Measure: Kilometer</b>			
<b>Method of Calculation: Measure of length of roads</b>			
<b>Disaggregated by: None</b>			
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
<b>Data collection method: Driving along the roads</b>			
<b>Data Source: Project sites</b>			
<b>Method of data acquisition by USAID: Reporting</b>			
<b>Frequency and timing of data acquisition by USAID: Annual</b>			
<b>Estimated cost of data acquisition: Included in project cost</b>			
<b>Individual responsible at USAID: David Wounuah</b>			
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<b>Location of Data Storage: PIDS</b>			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment: N/A</b>			
<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: Regular Check</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0		
2014	83.5	83.5	

2015	160	160	Additional design packages have been awarded to current contractors.
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>			
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>			
<b>Name of Intermediate Result: Construction oversight provided for local contracts</b>			
<b>Name of Indicator: Length of roads inspected during construction</b>			
<b>Geographic Focus: Bong, Lofa and Nimba</b>			
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___</b>			
DESCRIPTION			
<b>Precise Definition(s):</b>			
<b>Unit of Measure: Kilometer</b>			
<b>Method of Calculation: Measure of length of roads</b>			
<b>Disaggregated by: None</b>			
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<b>Frequency and timing of data acquisition by USAID: Annual</b>			
<b>Estimated cost of data acquisition: Included in project cost</b>			
<b>Individual responsible at USAID: David Wounuah</b>			
<b>Individual responsible for providing data to USAID: Francisco Perez</b>			
<b>Location of Data Storage: PIDS</b>			
DATA QUALITY ISSUES			
<b>Date of Initial Data Quality Assessment: N/A</b>			
<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
PLAN FOR DATA ANALYSIS, REVIEW, & REPORTING			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: Regular Check</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
OTHER NOTES			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
PERFORMANCE INDICATOR VALUES			

Year	Target	Actual	Notes
2013	0		
2014	83.5	83.5	Due to EVD, target not achieved
2015	160	75	New Construction packages began June 2015
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>
<b>Name of Intermediate Result: Engineering contract documentation produced</b>
<b>Name of Indicator: Length of roads with complete engineering designs submitted to USAID/Liberia</b>
<b>Geographic Focus: Bong, Lofa , Nimba and Grand Bassa</b>
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___</b>
<b>DESCRIPTION</b>
<b>Precise Definition(s):</b>
<b>Unit of Measure: Kilometer</b>
<b>Method of Calculation: Measure of length of roads</b>
<b>Disaggregated by: None</b>
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>
<b>PLAN FOR DATA ACQUISITION BY USAID</b>
<b>Data collection method: Driving along the roads</b>
<b>Data Source: Project sites</b>
<b>Method of data acquisition by USAID: Reporting</b>
<b>Frequency and timing of data acquisition by USAID: Annual</b>
<b>Estimated cost of data acquisition: Included in project cost</b>
<b>Individual responsible at USAID: David Wounuah</b>
<b>Individual responsible for providing data to USAID: Francisco Perez</b>
<b>Location of Data Storage: PIDS</b>
<b>DATA QUALITY ISSUES</b>
<b>Date of Initial Data Quality Assessment: N/A</b>
<b>Known Data Limitations and Significance (if any): N/A</b>
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>
<b>Date of Future Data Quality Assessments: N/A</b>
<b>Procedures for Future Data Quality Assessments: N/A</b>
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>
<b>Data Analysis: Manual</b>
<b>Presentation of Data: Tabulated</b>
<b>Review of Data: Regular Check</b>
<b>Reporting of Data: Quarterly and Annual Report</b>
<b>OTHER NOTES</b>
<b>Notes on Baselines/Targets: Stipulated</b>

<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0		
2014	75	75	Due to EVD, original target (150) was not achieved
2015	270	45	393 km of field survey by July 2015. Designs commenced in August 2015. Target not yet achieved due to extension in contract Mod. period
2016	348	-	Expected by Y3, Q2 end – March 2016
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>	
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>	
<b>Name of Intermediate Result: Engineering contract documentation produced</b>	
<b>Name of Indicator: Bid documents prepared and submitted to USAID/Liberia</b>	
<b>Geographic Focus: Bong, Lofa ,Nimba and Grand Bassa</b>	
<b>Is this an Annual Report indicator?</b> No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___	
<b>DESCRIPTION</b>	
<b>Precise Definition(s):</b>	
<b>Unit of Measure: Kilometer</b>	
<b>Method of Calculation: Measure of length of roads</b>	
<b>Disaggregated by: None</b>	
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>	
<b>PLAN FOR DATA ACQUISITION BY USAID</b>	
<b>Data collection method: Driving along the roads</b>	
<b>Data Source: Project sites</b>	
<b>Method of data acquisition by USAID: Reporting</b>	
<b>Frequency and timing of data acquisition by USAID: Annual</b>	
<b>Estimated cost of data acquisition: Included in project cost</b>	
<b>Individual responsible at USAID: David Wounuah</b>	
<b>Individual responsible for providing data to USAID: Francisco Perez</b>	
<b>Location of Data Storage: PIDS</b>	
<b>DATA QUALITY ISSUES</b>	
<b>Date of Initial Data Quality Assessment: N/A</b>	
<b>Known Data Limitations and Significance (if any): N/A</b>	
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>	

<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: Regular Check</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2014	75	75	Due to EVD, target not achieved. Target has been rebase lined with new work plan.
2015	270	0	Design commenced Aug 2015. Target not yet achieved due to extension in contract Mod. period
2016	393	-	
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			
<b>Performance Indicator Reference Sheet</b>			
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>			
<b>Name of Intermediate Result: Survey for design completed</b>			
<b>Name of Indicator: Length of survey (windshield and instrument) conducted</b>			
<b>Geographic Focus: Bong, Lofa , Nimba and Grand Bassa</b>			
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___</b>			
<b>DESCRIPTION</b>			
<b>Precise Definition(s):</b>			
<b>Unit of Measure: Kilometer</b>			
<b>Method of Calculation: Measure of length of roads</b>			
<b>Disaggregated by: None</b>			
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
<b>Data collection method: Driving along the roads</b>			
<b>Data Source: Project sites</b>			
<b>Method of data acquisition by USAID: Reporting</b>			
<b>Frequency and timing of data acquisition by USAID: Annual</b>			
<b>Estimated cost of data acquisition: Included in project cost</b>			
<b>Individual responsible at USAID: David Wounuah</b>			
<b>Individual responsible for providing data to USAID: Francisco Perez</b>			
<b>Location of Data Storage: PIDS</b>			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment: N/A</b>			

<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: Regular Check</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0		
2014	75	75	Due to EVD, original target (150) not achieved.
2015	375	393	Survey ahead of revised work plan schedule.
2016	0	0	
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>	
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>	
<b>Name of Intermediate Result: Target roads determined</b>	
<b>Name of Indicator: Prioritized target roads for further design development based upon stakeholders needs and requirements</b>	
<b>Geographic Focus: Bong, Lofa , Nimba and Grand Bassa</b>	
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___</b>	
<b>DESCRIPTION</b>	
<b>Precise Definition(s):</b>	
<b>Unit of Measure: Kilometer</b>	
<b>Method of Calculation: Measure of length of roads</b>	
<b>Disaggregated by: None</b>	
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>	
<b>PLAN FOR DATA ACQUISITION BY USAID</b>	
<b>Data collection method: Driving along the roads</b>	
<b>Data Source: Project sites</b>	
<b>Method of data acquisition by USAID: Reporting</b>	
<b>Frequency and timing of data acquisition by USAID: Annual</b>	
<b>Estimated cost of data acquisition: Included in project cost</b>	
<b>Individual responsible at USAID: David Wounuah</b>	

<b>Individual responsible for providing data to USAID: Francisco Perez</b>			
<b>Location of Data Storage: PIDS</b>			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment: N/A</b>			
<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: Regular Check</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0		
2014	150	450	Prioritization completed ahead of schedule
2015	270	NA	
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>			
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>			
<b>Name of Intermediate Result: Selected local A&amp;E firms trained</b>			
<b>Name of Indicator: Number of engineers and technical staffers from local A&amp;E firms trained</b>			
<b>Geographic Focus: Bong, Lofa, Nimba, Grand Bassa and Monrovia</b>			
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2016___</b>			
<b>DESCRIPTION</b>			
<b>Precise Definition(s):</b>			
<b>Unit of Measure: Number</b>			
<b>Method of Calculation: Training logs/Attendance registers</b>			
<b>Disaggregated by: Sex</b>			
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
<b>Data collection method: Signing attendance</b>			
<b>Data Source: Project trainer</b>			

<b>Method of data acquisition by USAID: Reporting</b>			
<b>Frequency and timing of data acquisition by USAID: Annual</b>			
<b>Estimated cost of data acquisition: Included in project cost</b>			
<b>Individual responsible at USAID: David Wounuah</b>			
<b>Individual responsible for providing data to USAID: Francisco Perez</b>			
<b>Location of Data Storage: PIDS</b>			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment: N/A</b>			
<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: End of training period</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0	0	
2014	10	10	(5 Firms/10 Trainees)
2015	15	15	1 Engineers per firm plus two senior staff per firm
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>
<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>
<b>Name of Intermediate Result: Selected local A&amp;E firms trained</b>
<b>Name of Indicator: Number of locals A&amp;E firms with improved capabilities in the design and supervision of rural roads</b>
<b>Geographic Focus: Bong, Lofa, Nimba, Grand Bassa and Monrovia</b>
<b>Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2015___</b>
<b>DESCRIPTION</b>
<b>Precise Definition(s):</b>
<b>Unit of Measure: Number</b>
<b>Method of Calculation: Registration/Training logs</b>
<b>Disaggregated by: None</b>

<b>Justification &amp; Management Utility: Usefulness of Indicators</b>			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
Data collection method: By Registration			
Data Source: Project trainer			
Method of data acquisition by USAID: Reporting			
Frequency and timing of data acquisition by USAID: Annual			
Estimated cost of data acquisition: Included in project cost			
Individual responsible at USAID: David Wounuah			
Individual responsible for providing data to USAID: Francisco Perez			
Location of Data Storage: PIDS			
<b>DATA QUALITY ISSUES</b>			
Date of Initial Data Quality Assessment: N/A			
Known Data Limitations and Significance (if any): N/A			
Actions Taken or Planned to Address Data Limitations: N/A			
Date of Future Data Quality Assessments: N/A			
Procedures for Future Data Quality Assessments: N/A			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
Data Analysis: Manual			
Presentation of Data: Tabulated			
Review of Data: End of training period			
Reporting of Data: Quarterly and Annual Report			
<b>OTHER NOTES</b>			
Notes on Baselines/Targets: Stipulated			
Other Notes: None			
<b>PERFORMANCE INDICATOR VALUES</b>			
Year	Target	Actual	Notes
2013	0	0	
2014	5	5	Continuous training
2015	5	5	Training completed
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

<b>Performance Indicator Reference Sheet</b>	
Name of Development Objective: Ease of Access to Markets Facilitated	
Name of Intermediate Result: Prequalification document submitted	
Name of Indicator: Develop evaluation criteria and conduct full assessment of available engineering sources.	
Geographic Focus: Bong, Lofa, Nimba, Grand Bassa and Monrovia	
Is this an Annual Report indicator? No ___ Yes _Yes___, for Reporting Year(s) ___2013/2015___	
<b>DESCRIPTION</b>	
Precise Definition(s):	

<b>Unit of Measure: Number</b>			
<b>Method of Calculation: Training logs/Attendance registers</b>			
<b>Disaggregated by: Sex</b>			
<b>Justification &amp; Management Utility: Usefulness of Indicators</b>			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
<b>Data collection method: Assessment</b>			
<b>Data Source: Project trainer</b>			
<b>Method of data acquisition by USAID: Reporting</b>			
<b>Frequency and timing of data acquisition by USAID: Annual</b>			
<b>Estimated cost of data acquisition: Included in project cost</b>			
<b>Individual responsible at USAID: David Wounuah</b>			
<b>Individual responsible for providing data to USAID: Francisco Perez</b>			
<b>Location of Data Storage: PIDS</b>			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment: N/A</b>			
<b>Known Data Limitations and Significance (if any): N/A</b>			
<b>Actions Taken or Planned to Address Data Limitations: N/A</b>			
<b>Date of Future Data Quality Assessments: N/A</b>			
<b>Procedures for Future Data Quality Assessments: N/A</b>			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis: Manual</b>			
<b>Presentation of Data: Tabulated</b>			
<b>Review of Data: End of training period</b>			
<b>Reporting of Data: Quarterly and Annual Report</b>			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets: Stipulated</b>			
<b>Other Notes: None</b>			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0	0	
2014	8	9	Firms reviewed with developed criteria
2015	NA	NA	
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			

## Performance Indicator Reference Sheet

<b>Name of Development Objective: Ease of Access to Markets Facilitated</b>
<b>Name of Intermediate Result: Local A&amp;E firms identified</b>
<b>Name of Indicator: Expression of interest evaluation completed for number of A&amp;E firms</b>
<b>Geographic Focus: Bong, Lofa, Nimba, Grand Bassa and Monrovia</b>

<b>Is this an Annual Report indicator?</b> No ___ Yes _Yes___, for Reporting Year(s) ___2013/2015___			
<b>DESCRIPTION</b>			
<b>Precise Definition(s):</b>			
<b>Unit of Measure:</b> Number			
<b>Method of Calculation:</b> Training logs/Attendance registers			
<b>Disaggregated by:</b> Sex			
<b>Justification &amp; Management Utility:</b> Usefulness of Indicators			
<b>PLAN FOR DATA ACQUISITION BY USAID</b>			
<b>Data collection method:</b> Evaluation			
<b>Data Source:</b> Project trainer			
<b>Method of data acquisition by USAID:</b> Reporting			
<b>Frequency and timing of data acquisition by USAID:</b> Annual			
<b>Estimated cost of data acquisition:</b> Included in project cost			
<b>Individual responsible at USAID:</b> David Wounuah			
<b>Individual responsible for providing data to USAID:</b> Francisco Perez			
<b>Location of Data Storage:</b> PIDS			
<b>DATA QUALITY ISSUES</b>			
<b>Date of Initial Data Quality Assessment:</b> N/A			
<b>Known Data Limitations and Significance (if any):</b> N/A			
<b>Actions Taken or Planned to Address Data Limitations:</b> N/A			
<b>Date of Future Data Quality Assessments:</b> N/A			
<b>Procedures for Future Data Quality Assessments:</b> N/A			
<b>PLAN FOR DATA ANALYSIS, REVIEW, &amp; REPORTING</b>			
<b>Data Analysis:</b> Manual			
<b>Presentation of Data:</b> Tabulated			
<b>Review of Data:</b> End of training period			
<b>Reporting of Data:</b> Quarterly and Annual Report			
<b>OTHER NOTES</b>			
<b>Notes on Baselines/Targets:</b> Stipulated			
<b>Other Notes:</b> None			
<b>PERFORMANCE INDICATOR VALUES</b>			
<b>Year</b>	<b>Target</b>	<b>Actual</b>	<b>Notes</b>
2013	0	0	
2014	8	9	Firms
2015	NA	NA	
<b>THIS SHEET LAST UPDATED ON: JUNE 2015</b>			