SFG1993 V9

IBADAN URBAN FLOOD MANAGEMENT PROJECT (IUFMP)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

For the

RECONSTRUCTION OF OKE AYO TUNTUN, OKI OLODO CULVERT

DRAFT FINAL REPORT

MARCH 2017

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LIST OF ABBREVIATIONS AND ACRONYMS

AoI	Area of Influence
BP	Bank Policy
BOD	Biochemical Oxygen Demand
CBO	Community Based Organizations
CDA	Community Development Associations
DO	Dissolved Oxygen
EA	Environmental Assessment
EC	Electrical Conductivity
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental Safeguard Specialist
FEPA	Federal Environmental Protection Agency
FGD	Focus Group Discussion
FMEnv	Federal Ministry of Environment
GPS	Global Positioning System
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
HSE	Health Safety and Environment
ISDS	Integrated Safeguards Data Sheet
IUFMP	Ibadan Urban Flood Management Project
Lexp	Exposure Levels
LGA	Local Government Area
Lmax	Maximum Noise Levels
Lmin	Minimum Noise Levels
LTI	Lost Time Injuries
MDAs	Ministries Departments and Agencies
MoW	Ministry of Works
ND	Not Detected
NGOs	Non-Governmental Organization
NIMET	Nigeria Meteorological Agency
No	Number
OHS	Occupational Health and Safety
OM	Organic Matter
OP	Operational Policy
OYSG	Oyo State Government
OYSMEWR	Oyo State Ministry of Environment and Water Resources
PAD	Project Appraisal Document
PAPs	Project Affected Persons
PC	Project Coordinator
PDOs	Project Development Objectives
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
RC	Reinforced Concrete
RPF	Resettlement Policy Framework
SDS	Social Development Specialist

STD	Sexually Transmitted Diseases
SPM	Suspended Particulate Matter
TDS	Total Dissolved Solids
TOR	Terms of Reference
TSP	Total Suspended Particulate
TSS	Total Suspended Solids
VOC	Volatile Organic Compounds
WMP	Waste Management Plan

UNITS OF MEASUREMENT

%	Percent
^{O}C	Degree Celsius
Ug/m^3	Microgram per cubic metre
cm	Centimeter
cmol/kg	Centimole per kilogram
dB (A)	A-weighted decibels
Kg	Kilogram
Km	Kilometer
Km^2	Square kilometer
m	Meter
m^2	Square meter
m^3	Cubic meter
mg/kg	Milligram per kilogram
mg/l	Milligram per liter
ppm	Parts per million
S/cm	Siemens per centimetre

CHEMICAL ELEMENTS AND COMPOUNDS

Ca	Calcium
Cd	Cadmium
CO	Carbon Monoxide
CO_2	Carbon dioxide
Cu	Copper
Fe	Iron
H_2O	Water
H_2S	Hydrogen Sulphide
K	Potassium
Mg	Magnesium
Mn	Manganese
Na	Sodium
NO_3	Nitrate
NO_3^-	Nitrate ion
NO_X	Nitrogen Oxides
O_2	Oxygen
P	Phosphorus
Pb	Lead
PO_4^{3-}	Phosphate ion

SO_4^{3-}	Sulphate ion
SO_X	Sulphur Oxides
Zn	Zinc

CURRENCY AND EQUIVALENTS

Currency Unit	=	Nigerian Naira
1 US$	=	N305

EXECUTIVE SUMMARY

ES 1: Background

The World Bank is supporting the Oyo State Government (OYSG) to implement the Ibadan Urban Flood Management project (IUFMP) which aims at developing a long-term flood risk management framework to improve the capacity of Oyo State to manage flood risk and to respond effectively to flooding in the city of Ibadan. Specifically, the Bank's support will finance some priority investments related to improving the infrastructure of Ibadan City, especially those destroyed by August 26, 2011 floods.

The Oke Ayo Tuntun, Oki Olodo culvert is one of the priority sites for intervention under the IUFMP. The site is located at about 2km from Oki junction in Egbeda Local Government Area within the Ibadan Metropolis and lies between x and y coordinates N819582; E610295.

ES 2: Description of the Proposed Intervention Works

The proposed intervention works will entail the demolition of dilapidated culvert, removal of debris from the river bed as well as construction of a suitable single cell concrete culvert and rehabilitation of approach roads and drainage structures. The objective of the project is to allow for free flow of water and ease of crossing by both pedestrian and vehicles, and consequently prevent flooding.

ES 3: Potential Environmental and Social Impacts

The proposed construction activities on this priority site is likely to have adverse environmental and social impacts which will be largely localized in spatial extent, short in duration, occurring within less sensitive environmental areas and thus can be effectively managed through the implementation of appropriate mitigation measures. The potential environmental and social impacts that are likely to arise from the proposed project activities are summarized below:

POTENTIAL ADVERSE IMPACTS	
ENVIRONMENTAL IMPACTS	**SOCIAL IMPACTS**
• Deterioration of ambient air quality due to the release of dusts & gaseous pollutants. • Noise & vibration disturbances from operation of vehicles & equipment. • Vegetation loss from land clearing and preparation activities • Destruction of habitat & displacement of fauna. • Soil erosion due to the removal of vegetal cover. • Soil contamination from oil spills from equipment & fueling activities. • Waste generation • Groundwater contamination from spillages/leakages of oils. • Surface water contamination as a result of sediment/pollutants run off	• Increase demand on existing community health and sanitation infrastructure due to influx of temporary workers & camp followers. • Threat to community culture, safety and security associated with presence of construction workers and business opportunists. • Potential damage to underground public utility cables and pipes and disruption of services. • Risk of communicable diseases such as sexually transmitted diseases (STDs) including HIV/AIDS due to influx and interaction of temporary workers with host communities. • Increased traffic and attendant risk of traffic accidents & injuries. • Respiratory and eye related problems for workers due to exposure to dusts and gaseous emissions. • Risk of occupational accidents, injuries and diseases.

ES 4: Environmental and Social Monitoring Programme

As part of this ESMP, a project specific monitoring plan has been designed. This plan establishes environmental and social action plans with well defined desired outcomes and actions to address all potential environmental and social impacts identified for the proposed project. The monitoring plan for this ESMP is presented in Chapter 3 (Table 3.2).

ES 5: Environmental and Social Monitoring Organization & Institutional Arrangement

The implementation of this ESMP requires the involvement of various institutions and stakeholders in Oyo State fulfilling roles to ensure sound environmental management during the life cycle of the project. The institutional arrangement as well as the roles and responsibilities of the various institutions and persons that will be involved in the implementation, monitoring and review of the ESMP are discussed in Section 3.3 in the main Report.

ES 6: Capacity Building and Training

Capacity building measures will be required to ensure that institutions involved in implementing the ESMP have the necessary knowledge and skills to fulfill their roles. The broad areas of capacity building and proposed training programme are presented in Chapter 3 (Table 3.5). The cost for capacity building is estimated at US$4,000 (N1,220,000).

ES 7: Implementation Schedule

The activities related to environmental management and monitoring will be integrated in the overall construction schedule. The project implementation phase will be completed in five (5) months.

ES 8: Cost Estimates

The total estimated cost for the ESMP implementation and monitoring is **US$ 12,650.00 (N3, 858,250.00).** Details of cost estimations are given in the Table below.

Item	Responsibility	Cost Estimate in Nigerian Naira (N)	Cost Estimate in US Dollars (US$)
Mitigation	Contractor	Part of construction cost	
Mitigation	IUFMP	2,287,500	7,500
Capacity Building	PIU, Oyo State Ministry of Environment & Water Resources /Other relevant MDAs	1,220,000	4,000
Sub- Total		3,507,500	11,500
Contingency	10% of Sub- Total	350,750	1,150
Total		**3,858,250**	**12,650.00**

Currency Unit = Nigerian Naira. US$ = N305

ES 9: Public Consultation

Consultation was carried out at different levels with relevant stakeholders and members of the community. These included: State MDAs, Traditional Rulers, Community Leaders, Community Association Members, Women Groups, Youths and NGOs/CBOs. Details are provided in Chapter 4.

ES 10: Conclusions and Recommendations

Below are some of the recommendations that will enhance the overall sustainability of the proposed project especially during the implementation phase of the project:

- Affected communities should be duly informed and advised at least 2 weeks prior to commencement of works about any road diversions as well as alternative routes for heavy trucks and smaller vehicles.
- A temporary bridge accessible by humans and motorcycle to ease movement of people and goods should be provided to serve the communities during construction. The temporary bridge will keep businesses alive; mitigate the problem of accessibility to the communities such that community members especially school children, market women, vulnerable groups who use the existing dilapidated structure to cross will not be totally cut off during construction.
- Priority should be given to local workers during project implementation in order to limit the number of migrant workers. This will reduce threats to community culture, health and security as well as stimulate local socioeconomic activities, improve livelihood and reduce poverty in the affected communities.
- Affected communities should be informed in good time about the commencement of civil works on the site. In addition, ongoing consultation with members of the affected communities especially during construction should be maintained to allow them freely express their views/concerns and make valuable contributions.
- Community-based Grievance Redress Mechanism should be developed and implemented to promptly and effectively resolve grievances from affected persons.
- Water should be used for dust suppression during civil works especially those involving excavations and other dust generating activities in order to protect nearby communities from respiratory and eyes problems and other health related challenges of dust.

CHAPTER ONE: INTRODUCTION

1.1 Background

The World Bank is supporting the Oyo State Government (OYSG) to implement the Ibadan Urban Flood Management project (IUFMP) which aims at developing a long-term flood risk management framework to improve the capacity of Oyo State to manage flood risk and to respond effectively to flooding in the city of Ibadan. Specifically, the Bank's support will finance some priority investments related to improving the infrastructure of Ibadan City, especially those destroyed by August 26, 2011 floods. The support will ultimately help Ibadan reduce flood risks, improve waste collection and treatment, while developing and improving the quality of existing infrastructural assets. The Oke Ayo Tuntun, Oki Olodo culvert is one of the priority sites for intervention under the IUFMP. Proposed intervention activity will entail essentially a medium-sized civil works involving the reconstruction of the damaged culvert.

1.2 Project Location

The site is located at about 2km from Oki junction in Egbeda Local Government Area within the Ibadan Metropolis and lies between x and y coordinates N819582; E610295. The location of the intervention site is located in Figure 1.1.

Figure 1.1: Map showing the location of the proposed intervention site in Egbeda LGA, Oyo State

1.3 Rationale for the Intervention Works

As a result of inadequate sizing of the existing ring culvert, the approach single carriage road has been badly damaged by erosion around the culvert and along the carriageway. This is primarily due to the inadequate capacity of the culvert to discharge flood water and continuous flooding in the area.
Presently, the existing culvert which connects the communities on both sides is partly damaged and unfit for purpose. This situation has led to series of environmental and social concerns including gully

erosion formation, restriction of water flow, accumulation of waste materials, continuous dilapidation of road network and drainages, proliferation of aquatic weeds, fragmentation of communities amongst others (Plates 1.1-1.4). Hence, there is urgent need to replace the old damaged culvert with an adequately sized single cell bridge and rehabilitate the approach roads in order to mitigate the environmental and social concerns. Other benefits of the project include: improved drainage system and management of storm water; prevention of avoidable flooding and related morbidity and assets damage; improved hygiene and public health by prevention of stagnation of water and accumulation of waste; and employment of local labour during bridge re-construction.

Plate 1.1: Deep gully erosion threatening the road

Plate 1.2: Dilapidation of approach road

Plate 1.3: Copplased culvert causing community fragmentation

Figure 1.4: Accumulation of water along the channel

Figure 1.5: Deep gully formation around the culvert

1.4 Description of the Proposed Intervention Works

The proposed intervention works will entail the demolition of dilapidated culvert, removal of debris from the river bed as well as construction of a suitable single cell concrete culvert (to replace the damaged one) and rehabilitation of approach roads and drainage structures (Figures 1.2 – 1.4). The objective of the project is to allow for free flow of water and ease of crossing by both pedestrian and vehicles, and consequently prevent flooding. The land area required for the proposed intervention is estimated at about 225m^2.

Specifically, the works will entail the following:

- Demolition of existing dilapidated ring culvert;
- Construction of a single cell (3m x 3.5m) box culvert;

- Construction of appropriate bed scour (upstream and downstream) and side protection to prevent erosion of the stream embankment;
- Rehabilitation of roadway approaches of averagely 1km long with asphaltic concrete finish with RC side drains;
- Installation of road markings and warning signs.

1.4.1 Project Activities

The proposed works will be carried out in three phases namely; Pre-construction, Construction and Operation phases as presented in Table 1.1. The proposed pre-construction and construction phase will be approximately about five (5) months.

Table 1.1: Proposed Activities

Phase	Proposed Intervention	Activities
Pre-Construction	Marking Clearing Mobilization	• Marking of the boundaries of working areas by Surveyors; • Clearing of vegetation that falls within the working areas and along approach roads; • Mobilization of trucks, vehicles & other equipment; Installation of camp offices & workshops.
Construction	Road works	• Scarification; • Sub-grade preparation; • Earthworks; and • Construction of base course and asphalt layers
	Side drains	• Excavation; • Construction of drainage structure and facilities; • Construction of retaining walls and earth-filling; and any other ancillary works.
	Culvert works	• Demolition and removal of old (collapsed) structures; • Excavation; • Construction of reinforced concrete retaining wall; and • Construction of superstructures including parapets, bridge bearings and expansion joints.
Operation	Culvert and road operation and maintenance	• Clearing of culverts and trenches of solid waste and silt; • Routine inspection of drainage structures and road (pavement) surface; • Scheduled & unscheduled integrity checks of culvert structural components (foundation, joins e.t.c). • Routine maintenance and replacement of wearing/faulty/damaged parts including binders, road restraint system, markings, studs, traffic control, erosion control & other environmental barriers. • Maintenance of the road verge (including landscaping and rehabilitation).

1.5 Rationale and Objectives of ESMP

The proposed project is essentially a civil engineering work as described in Section 1.5 and as such could result in some environmental and social impacts thus triggering the World Bank's Operational Policy on Environmental Assessment OP 4.01. (Summary of all triggered World Bank Environmental and Social Safeguard Policies are attached as Annex 2). The reconstruction of the culvert is however assigned an Environmental Screening Category "B" by the World Bank thus requiring the preparation of an ESMP. This is because the anticipated environmental and social impacts are profiled to be site specific, of limited potential negative environmental and social effects which can be easily mitigated.

The ESMP will clearly identify the environmental and social impacts, proffer mitigation measures and define the roles and responsibilities of all critical stakeholders throughout project life cycle in order to ensure that mitigation measures are implemented and overall sustainability of the project is assured. The Terms of Reference for the ESMP attached as Annex 1

1.6 Approach and Methodology for ESMP

This ESMP was prepared in accordance with the World Bank safeguard policies and the Nigerian environmental assessment guidelines and procedures taking into due cognisance the extant environmental regulations in Oyo State.

1.6.1 Literature Review/Desktop Studies

Literature review and desktop studies were undertaken to obtain information on the proposed project as well as the environmental and socio economic conditions in the project area. The documents reviewed included: Project Appraisal Document (PAD); Environmental and Social Management Framework (ESMF); Integrated Safeguard Data Sheet (ISDS) - Appraisal stage; Project Implementation Manual (PIM); World Bank Safeguards Policies; Baseline information relating to the biophysical and socio-cultural environment of the project site; Detailed engineering designs as well as relevant national and Oyo State environmental laws, regulations, policies and guidelines.

1.6.2 Field Data Gathering

Field data gathering was carried out from 11th to 12th January, 2017 to establish the existing conditions of the environmental and social components or resources that may potentially be affected and allow for accurate predictions of how the project may impact these key components. The field data gathering covered an average area of 1km radius drawn from the proposed bridge location. This area was adopted as the project's Area of Influence (AoI) taking into consideration area of direct impact (i.e. the immediate surroundings localized to the project footprint) and spatial distribution and socioeconomic conditions of the adjoining (affected) communities.

1.6.2.1 Sampling Design

Field sampling for environmental and social parameters was designed to cover the entire AoI. The sampling points in the study area were geo-referenced and mapped using GPS Garmin model 76CSX.

1.6.2.2 Sampling Parameters and Methodology

The summary of environmental media, parameters and sampling methods are presented in Table 1.2.

Table 1.2: Summary of Sampling Media, Parameters and Methodology

<table>
<tr><th>Environmental Medium</th><th>Sampling Methodology</th></tr>
<tr><td>Climate & Meteorology</td><td>The meteorological data of the project area were obtained from the Nigeria Meteorological Agency (NIMET) Oyo State Office whilst the prevailing climatic conditions were assessed in-situ.</td></tr>
<tr><td>Air</td><td>The list of equipment used for the ambient air quality monitoring within and around the site are shown in table below
<table>
<tr><th>EQUIPMENT USED</th><th>PARAMETERS ANALYSED</th></tr>
<tr><td>BW Multiple Gas Analyzer</td><td>NO_X, CO, CO_2 and O_2</td></tr>
<tr><td>Sper Scientific Humidity/Temperature Meter</td><td>Relative Humidity and Temperature</td></tr>
<tr><td>MIE pDR 1200 particulate data logger</td><td>SPM (suspended particulate matter)</td></tr>
<tr><td>Sound Level Meter, Extech 407730</td><td>Noise level</td></tr>
</table></td></tr>
<tr><td>Noise Level</td><td>Noise levels were measured using the precision Sound Level Meter, Extech 407730. Measurement of minimum noise levels (L_{min}), maximum noise levels (L_{max}) as well as noise exposure levels, (L_{exp}) were recorded at four sampling points between the hours of 9.00am and 4.00pm on hourly basis.</td></tr>
<tr><td>Soil</td><td>Surface and sub- soil samples were collected within a soil depth of 0 - 15cm and 15 - 30cm at geo-referenced locations using the Dutch Hand Auger. Soil samples for physico-chemical analyses were collected in polyethylene bags and wrapped in aluminum foil. Samples for microbial analyses were collected in sterilized 100 ml McCartney bottles and stored in a cool box. A total of two (2) soil samples were collected and made into a composite sample.</td></tr>
<tr><td>Surface & Ground Water</td><td>Water samples were collected from surface water and groundwater sources in the project area. Clean sampling bottles and sterile 20 ml plastic containers were used to collect surface water samples at the designated geo-referenced locations. Amber bottles of 250ml capacity were used to collect water samples for heavy metals analysis. These samples were acidified to pH of 2 in the field using concentrated nitric acid. Fast changing physico-chemical parameters such as pH, Total Dissolved Solids (TDS), Dissolved Oxygen (DO) and Temperature were measured in the field using the Corning M-90 Checkmate Deluxe field system. These samples were preserved by storing in ice-filled cooler boxes before transportation to the laboratory. One sample each was collected for surface water and groundwater for laboratory analyses of various parameters.</td></tr>
<tr><td>Hydrobiology</td><td>Physical features of the water body in the project area including, depth profiles, width, current velocity and direction were determined. The prevailing use of the surface water was determined by physical observation and interviews.</td></tr>
<tr><td>Flora & Fauna</td><td>A 5 x 50m^2 quadrant was selected randomly for the collection of full floristic and structural information. A species list defining the floristic assemblages was recorded as much as possible and unrecognized species were collected for identification in approved laboratories. Plants were examined in vivo for signs and evidence of environmentally induced stress as well as disease conditions. Information on fauna was acquired by direct/ indirect sighting of animals and interviews/discussions with natives and residents within and around the project area.</td></tr>
</table>

1.6.2.3 Quality Control and Laboratory Analysis

Quality assurance measures were applied during the field data gathering and throughout the study process. Samples were collected, handled and analyzed in accordance with FMEnv guidelines and international protocols. Soil and surface water samples collected from the field were analyzed at an FMEnv accredited laboratory.

1.6.2.4 Socioeconomics

The primary data on the socioeconomic and health conditions in the study area were generated with the aid of household questionnaires administered to elicit information from 112 randomly selected respondents (A copy of the questionnaire is attached as Annex 3). The questionnaires were administered to direct Project Affected Persons (PAPs), Key Stakeholders, and other members of the community. The sampling methodology is presented in Table 1.3.

Table 1.3: Details of the Sampling Methodology and the Questionnaires Administered

Categories of Stakeholders Sampled	Questionnaire Administered	Questionnaire Returned	IDI	FGD	Town Hall Meeting
Direct Project Affected Persons (PAPs)	40	40	3		
Key Stakeholders	10	10	4		
Other members of the community	62	62			
Total	112	112	7	2	1

1.6.3 Community and Stakeholder Consultations

Community wide stakeholder consultations were held within the project area on 11th January 2017 to elicit views and concerns about the proposed intervention from the affected communities, community representatives and other stakeholders. In addition, structured questionnaire administration, in-depth interviews and focus group discussions were also used. Through this process, concerns and issues raised were addressed while views and inputs as regards the potential environmental and social impacts of the project and proposed mitigation/enhancement measures were obtained.

CHAPTER TWO: DESCRIPTION OF BASELINE CONDITIONS

2.1 Physical Environment

2.1.1 Climate /Meteorology

The project area falls within the predominant climatic conditions of the Ibadan metropolis.. The wet season usually between March and October is characterized by the influence of moist maritime South-West monsoon winds blowing inland from the Atlantic Ocean. The dry season occurs from November to February when the dry dust laden winds blow from the Sahara desert.. The *in situ* weather parameters measured in the project area are presented in Tables 2.1 below.

Table 2.1: In-situ Field Meteorological Measurements

Parameter	Unit	FMEnv Standards	Downwind by CAC Church	Upwind by transformer	Focus Point
			7.4149	7.4142	7.4146
			4.0039	4.0047	4.0043
Temperature	^{0}C	-	32.3	32.4	32.3
Humidity	%	-	70.1	70.2	69.4

Source: Fieldwork, 2017

2.1.2 Ambient Air Quality and Noise Level

The result of the in situ air quality assessment carried out in three locations in the project area is presented in Table 2.2 below. The result indicates that the ambient air quality parameters at the time of the assessment were within acceptable FMEnv limit. Some proposed project activities such as site clearing, excavation and movement of earth materials may however aggravate the emission of fugitive dust while gaseous pollutants may also be generated from exhaust of heavy duty vehicles and earthmoving equipment during construction. In situ noise levels were generally below FMEnv permissible noise level of 90 dB (A) for 8-hour working period.

Table 2.2: Air Quality and Noise Measurements in the Study Area

Parameter	Unit	FMEnv Standards	Point 1, Downwind	Point 2, Upwind	Point 3, Nearest Residential
			7.4149	7.4142	7.4146
			4.0039	4.0047	4.0043
CO	ppm	10	2	1	1
Methane	ppm	-	<0.01	<0.01	<0.01
SO_2	ppm	0.14	<0.01	<0.01	<0.01
O_2	%	20.5-20.9	20.8	20.8	20.8
NO_2	ppm	0.06	<0.01	<0.01	<0.01
H_2S	ppm		<0.01	<0.01	<0.01
CO_2	ppm		264	273	258
SPM	µg/m^3	150	67	55	64
Noise	db	90	56.6	63.5	60.0

2.1.3 Geology and Soils

The proposed intervention area similar to Ibadan metropolis is underlain by basement complex rocks which are mainly metamorphic rocks of Precambrian age with granite, quartzite and migmatite as the major rock types. The minor rock types include pegmatite, aplite and diorite.

The soils are predominantly sandy and slightly alkaline in nature with high metal content which may be attributed to anthropogenic activities and natural factors of the underlying rocks. The result of the composite physicochemical analysis of the soil in the study area is shown in Table 2.3.

Table 2.3: Physcio chemical properties of soils from the project site

Parameter	pH(1:1) H_20	pH(1:1) KCL	N %	OM %	P mg/kg	Ca Cmol/kg	Mg Cmol/kg	K Cmol/kg	Na Cmol/kg	Mn mg/kg	Fe mg/kg	Cu mg/kg	Zn mg/kg	% Sand	% Silt	% Clay
Arulogun	7.38	7.17	0.106	1.024	12,725	3.173	0.988	0.190	0.705	48.10	47.96	1.112	11.53	89.8	5.4	4.8
FMEnv	6 -9				1.00	150	50			0.20	1.50	0.10	5.0			

2.1.4 Surface Water and Groundwater

The Olodo stream was sampled at the bridge location and all parameters sampled were within acceptable FMEnv limits except for Total Suspended Solids (TSS) (Table 2.4). High TSS value is due to the presence of large amount of solid waste trapped in the stream. The physico-chemical properties of the sample are presented in Table 2.4 below.

Table 2.4: Physicochemical Properties of Surface water in the Study Area

Location	**pH**	S/cm **EC**	^{0}C **Temp**	mg/l **Mn**	mg/l **Fe**	mg/l **Cu**	mg/l **Zn**	**mg/l Cd**	mg/l **Pb**	mg/l **Cl**	mg/l **Carbonate**
Olodo Stream	7.21	0.32	26.1	5.34	1.00	0.000	0.00	0.00	0.00	126.0	ND
FMEnv Limit	6-9	-	<40	5	20	<1.0	<1.0	<1.0	<1.0	600	-
Location	mg/l **Bicarbonate**	mg/l **PO_4^{3-}**	mg/l **NO_3^-**	mg/l **SO_4^{2-}**	mg/l **Alkalinity**	mg/l **Hardness**	mg/l **TDS**	mg/l **TSS**	mg/l **DO**	mg/l **BOD**	
Olodo Stream	152.5	0.00	3.00	7.33	18.0	0.724	145	712	2.00	45.25	
FMEnv Limit	-	5	20	500	-	200	2000	30	-	30	

For groundwater assessment, a well was sampled at Olodo with the result presented in Table 2.5. All parameters measured were within acceptable FMEnv limits except for manganese and TSS. High TSS value observed may be attributed to shallow depth of the well, poor maintenance and over-usage.

Table 2.5: Physicochemical Properties of Groundwater in the Study Area

Location	**pH**	S/cm **EC**	^{0}C **Temp**	mg/l **Mn**	mg/l **Fe**	mg/l **Cu**	mg/l **Zn**	**mg/l Cd**	mg/l **Pb**	mg/l **Cl**	mg/l **Carbonate**
Olodo Well	7.08	0.31	26.3	1.90	0.12	0.000	0.00	0.00	0.00	108.0	ND
FMEnv Limit	6.5 – 8.5	-	-	0.05	1.0	0.1	5.0	0.01	0.05	-	
Location	mg/l **Bicarbonate**	mg/l **PO_4^{3-}**	mg/l **NO_3^-**	mg/l **SO_4^{2-}**	mg/l **Alkalinity**	mg/l **Hardness**	mg/l **TDS**	mg/l **TSS**	mg/l **DO**	mg/l **BOD**	
Olodo Well	152.5	0.00	0.30	1.29	16.0	0.682	113	1932	2.50	20.75	
FMEnv Limit		5.0	10	500	-	200	500	<10	7.5	-	

2.2 Biological Environment

2.2.1 Flora & Fauna

The vegetation in the proposed project area is sparse, mainly shrubs and grasses. However, the original vegetation has undergone modifications due to urban expansions, farming and other human activities. Fauna diversity in the study area includes lizards, snails, toads and bush rats as well as domesticated animals. The stream at the bridge location also harbors fishes and tadpoles.

2.3 Socioeconomic Environment

According to the Federal Republic of Nigeria official gazette of 2nd February 2009 No. 2 Vol. 96, Egbeda Local Government area has a total population of 281,573 at the 2006 census. Table 2.6 presents the summary of socio economic/demographic characteristics of the respondents.

Table 2.6: Summary of Socio-economic Characteristics of the Respondents

Socioeconomic Characteristics	**Label**	**Frequency**	**Percentage (%)**	**Comments**
Age	18 years and below 19 – 35 years 36 – 60 years 61 and above	2 42 50 18	1.8 37.5 44.6 16.1	Majority of the respondents are in their middle age.
Sex	Male Female	56 56	50.0 50.0	The same number of men and women were sampled in the study area.
Marital Status	Never married Married Separated Widowed	29 82 1	25.9 73.2 .9	Majority of the respondents are married & still in marital union. The rate of separation and divorce is very low. A quarter of the respondents were single as at the time of the survey.

Religion	Christian Islam	60 52	53.6 46.4	The largest proportion of the respondents practice Christianity.
Education	No formal education Primary school not completed Primary school completed Secondary school not completed Secondary school completed Post secondary school Koranic education	8 3 13 14 31 42 1	7.1 2.7 11.6 12.5 27.7 37.5 .9	Majority of the respondents have post-secondary education, followed by those with secondary education. The population could be said to be literate.
Occupation	Civil servants Farming Fishing Artisan Trading Professional Retired	8 2 31 44 9 8 10	7.1 1.8 27.7 39.3 8.0 7.1 8.9	There were more traders and artisan than other occupation categories. The sampled population also has a significant number of retirees
Duration of Living	1 – 5 years 6 – 10 years 11 – 15 years 16 – 20 years 21 – 25 years 26 – and above	36 37 22 9 3 5	32.1 33.0 19.6 8.0 2.7 4.5	Most respondents have been living in the area between 1 and 15 years
Construction material (wall)	Plastered Mud Cement Block Brick	9 101 2	8.0 90.2 1.8	Most of the houses in the area were built cement block
Toilet Facility	Flush or Pour Flush Toilet Pit latrine Bucket Toilet Total	104 7 1 112	92.9 6.3 .9 100.0	Majority of the respondents have flush toilet facility in their homes.
Type of Building	Bungalow Duplex Semi-Detached One room apartment Self contain	67 3 2 19 18	59.8 2.7 1.8 17.0 16.1	The common type of buildings constructed in the area is bungalow
Source of drinking water	Piped water Dug well Water From Spring Sachet/bottle water	8 89 1 14	7.1 79.5 .9 12.5	The common type of drinking water is dug well. The water sources may be fairly good for drinking.
Location of house	Flat ground Sloppy ground Flood Plains Steep slop	64 43 4 1	57.1 38.4 3.6 .9	Majority of the respondents build their houses in flat areas, while about two - fifth of them build in sloppy areas. This may have serious implication for flooding
Solid waste management	Government Private No response	32 74 6	28.6 66.1 5.4	Most of the sampled respondents are using private waste collector to dispose their waste. This is an indication a literate and enlightened population
Methods of waste disposal	Burying Bush Burning Open dump Organised collection	3 4 79 9 21	2.7 3.6 70.5 8.0 18.8	Majority of the respondents burn their waste. This may constitute environmental hazards in the area.
Population group mostly represented in the community	Elderly Middle age Youth Children	14 51 44 3	12.5 45.5 39.3 2.7	Majority of the respondents are middle aged and youths. They can provide the labour required for the project.
Presence of unemployed youth	Yes	100	89.3	Majority of the respondents are unemployed youth
Provision of man power for the project	Yes	104	92.9	Majority of respondents opined that the manpower needed can be provided by the community
Gender mostly employed	Male Female	105 7	93.8 6.3	Males are mostly employed in the area
Amount spent on food on daily basis	Less than 500 501 – 1000 1,001 – 1,500 1,501 – 2000 2,001 – 2,500 2,501 – 3000 No response	13 28 10 25 3 9 24	11.6 25.0 8.9 22.3 2.7 8.0 21.4	Majority of the respondents spend between 500 and 2000 naira on food daily.
Situation of roads within the community	Good Fair Poor No Response	3 27 75 7	2.7 24.1 67.0 6.3	The roads within the community are poor
Situation of schools in the community	Very good Good Fair	2 28 50	1.8 25.0 44.6	Majority of the respondents maintained that schools in there are not really bad

	Poor	26	23.2	
	No Response	6	5.4	
Situation of public health institutions	Very good	1	.9	Majority were of the opinion that the public health institutions in their area is poor
	Good	6	5.4	
	Fair	16	14.3	
	Poor	76	67.9	
	No Response	13	11.6	
Primary source of electricity in the community	Hurricane Lamp	2	1.8	Ibadan Electricity distribution Company is the major source of electricity
	Private	15	13.4	
	Community Generators	7	6.3	
	IBEDC	88	78.6	
Secondary source of electricity to the community	Hurricane lamp	16	14.3	Major secondary source of electricity is private generators
	Private	79	70.5	
	IBEDC	17	15.2	
Main source of fuel for cooking	Firewood	12	10.7	Kerosene is the major source of fuel for members of the community.
	Charcoal	9	8.0	
	Kerosene	53	47.3	
	Gas	37	33.0	
	Animal waste	1	.9	
Existence of private hospital	Yes	47	42.0	Less than half of the respondents opined that there is a public hospital in the community
Existence of maternity clinics	Yes	9	8.0	Less than one tenth of the respondents opined that there are private hospitals in the area.
Existence of public health centers	Yes	12	10.7	Majority of the sampled population agreed that there are no public health centres in their community
Existence of medicine /pharmacy store	Yes	54	48.2	About half of the sampled respondents opined that there are patent medicine sellers in the area.
Management of health during illness	Attend hospital/clinic	67	59.8	Majority of the respondents treats or manage their illness by attending hospital or clinic and also by purchasing drugs from pharmacy
	Buy drugs from nearby chemist/pharmacy	37	33.0	
	Visit traditional healing home	4	3.6	
	None	4	3.6	
Are there Security challenges in the community?	Yes	106	94.6	Majority of the respondents were of the opinion that there are security challenges in their community
Level of awareness of the proposed project	Very aware	57	50.9	The majority of the respondents are aware of the proposed reconstruction of the bridge.
	Moderately aware	43	38.4	
	Not aware	12	10.7	
Source of information on awareness	Television	12	10.7	Community associations and Government officials are the major sources of information about the reconstruction of the bridge in the community
	Newspaper	4	3.6	
	Government Official	28	25.0	
	Friends/relatives	5	4.5	
	Radio	9	8.0	
	Community Association	34	30.4	
Impact of intervention on household livelihoods	Reduce Business opportunity	29	25.9	The major negative impacts of the construction mentioned by the sampled population are that it will promote dusty environment during construction
	Not been able to go to farm	56	50.0	
	Dusty environment during dry season	20	17.9	
Impact of the intervention on the health of household	Yes	30	26.8	The majority were of the opinion that the construction of the bridge will not negatively affect health of the households in the area
Perceived effect of proposed construction on Okada Riders	Improve their Business	31	27.7	Majority of the sampled population maintained that the business of okada riders will not be affected negatively during the construction of the bridge
	Reduce their Business	36	32.1	
	Will have no effect	45	40.3	
Perceived effect of proposed construction on Car movement	Improve their Business	25	22.3	Majority of the sampled population opined that the proposed construction of the bridge will not negatively affect car movement
	Reduce their Business	45	40.2	
	Will have no effect	42	37.5	
Perceived effect of proposed Construction on School children	Stop them from going to school	1	.9	Majority of the respondents maintained that school children will not be negatively affected during the construction of the bridge.
	Make them go late to school	40	35.7	
	Can cause injury while going to school	1	.9	
	Make them return late from school	18	16.1	
	Have no effect	61	54.5	
Perceived effect of proposed Construction on the Elderly	Disrupt their movement	44	39.3	Majority of the respondents were of the opinion that the construction will have no effect on the elderly, a sizable proportion said that it will disrupt their movement. Palliative measure should be put in place
	Cause injury	3	2.7	
	Disallow relatives from visiting	3	2.7	
	No effect	62	55.4	
Perceived effect of proposed Construction on the Pregnant women	Deny access to antenatal (Yes)	25	22.3	Majority of the respondents opined that the proposed construction of the bridge will not negatively affect pregnant women
	Cause delivery at home (Yes)	4	3.6	
	Cause injury (Yes)	3	2.7	
	No effect (Yes)	77	68.8	
Perceived effect of proposed construction on the handicap/ visually impaired	Impaired Movement	37	33.0	Majority of the respondents were of the opinion that the construction will have no effect on the elderly, a sizable proportion said that it will disrupt their movement. Palliative measure should be put in place
	Cause injury	5	4.5	
	No effect	69	61.6	

CHAPTER THREE: ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

3.1 Potential Environmental and Social Impacts

The proposed construction activities on this priority site is likely to have adverse environmental and social impacts which will be largely localized in spatial extent, short in duration, occurring within less sensitive environmental areas and thus can be effectively managed through the implementation of appropriate mitigation measures. The potential environmental and social impacts that are likely to arise from the proposed project activities are summarized in Table 3.1.

Table 3.1: Potential Adverse Environmental and Social Impacts of the Proposed Project

POTENTIAL ADVERSE IMPACTS	
ENVIRONMENTAL IMPACTS	**SOCIAL IMPACTS**
• Deterioration of ambient air quality due to the release of dusts & gaseous pollutants. • Noise & vibration disturbances from operation of vehicles & equipment. • Vegetation loss from land clearing and preparation activities • Destruction of habitat & displacement of fauna. • Soil erosion due to the removal of vegetal cover. • Soil contamination from oil spills from equipment & fueling activities. • Waste generation • Groundwater contamination from spillages/leakages of oils. • Surface water contamination as a result of sediment/pollutants run off	• Increase demand on existing community health and sanitation infrastructure due to influx of temporary workers & camp followers. • Threat to community culture, safety and security associated with presence of construction workers and business opportunists. • Potential damage to underground public utility cables and pipes and disruption of services. • Risk of communicable diseases such as sexually transmitted diseases (STDs) including HIV/AIDS due to influx and interaction of temporary workers with host communities. • Increased traffic and attendant risk of traffic accidents & injuries. • Respiratory and eye related problems for workers due to exposure to dusts and gaseous emissions. • Risk of occupational accidents, injuries and diseases.

3.2 Environmental and Social Impact Management and Monitoring Programme

As part of this ESMP, a project specific environmental and social management and monitoring plan has been designed. This plan establishes environmental and social action plans with well defined desired outcomes and actions to address all potential impacts identified for the proposed project. The plan also include elements such as parameters to be measured, methods of measurement, location of measurement, performance indicators (targets or acceptance criteria) that can be tracked over defined time periods, and with estimates of the resources and responsibilities for monitoring. The plan is presented in Table 3.2.

Table 3.2: Environmental and Social Impact Management and Monitoring Plan

	Potential Impacts	Mitigation Measures	Responsibility For Mitigation	Cost of Mitigation (USD)	Parameters to be Measured	Method of Measurement	Performance Indicator	Sampling Location	Frequency of Monitoring	Responsibility for Monitoring	Cost of Monitoring (USD)
A	**PRE-CONSTRUCTION PHASE**										
SITE CLEARING AND MOBILIZATION											
ENVIRONMENTAL IMPACTS		• Use water suppression for control of loose soil materials on unpaved surfaces. • Cover trucks for transporting loose materials that may generate dust. • Ensure emissions from vehicles comply with specified national standards. • Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling techniques.	Contractor	Part of pre-construction costs	Gaseous pollutants such as SO_2, NO_2, CO_2, CO, VOCs, H_2S, TSP. Vehicular emission	In-situ Air Quality Measurement	FMEnv air pollutants permissible limit	Project site	Once during site clearing	Environmental Safeguard Specialist (ESS)-IUFMP Oyo State Ministry of Environment and Water Resources (OYSMEWR)	-
1	Deterioration of ambient air quality due to the release of fugitive dusts and gaseous pollutants										
2	Noise & vibration disturbances from operation of machineries and motorized equipment.	• Restrict all haulage and noise generating activities to working hours during the day. • Avoid unnecessary idling of internal combustion engines. • Install suitable mufflers on engine exhausts & compressor. • Ensure maintenance of equipment in line with manufacturer's specifications. • Ensure vehicle travelling in the project area are operated in accordance with speed limits to reduce noise levels. • Develop a mechanism to record and respond to noise complaints. • Provide & enforce the usage of hearing protection devices (ear plugs/muffs).	Contractor	Part of pre-construction costs	No of Complaints from affected communities Working hours Vehicle / equipment maintenance records Usage of ear plugs/ muffs	In-Situ Measurement of noise level	Noise Levels (Not to exceed 90dB(A) for 8 hours working period	Project site and nearby communities	Weekly	ESS,-IUFMP OYSMEWR	-
3	Vegetation loss from land clearing and preparation activities	• Restrict removal of vegetation to construction area. • Clearly define work areas to avoid unnecessary disturbance of areas outside of construction footprint. • Re-vegetate temporary disturbed areas with native species immediately following construction activities. • Avoid the use of herbicides on site. • Use erosion control structures e.g riprap .	Contractor	Part of pre-construction costs	Clearly defined boundaries of protected areas Re-vegetation activities	Visual observation	Available number and diversity of plant species within baseline conditions	Floral diversity survey	Once during Pre-construction phase	ESS-IUFMP OYSMEWR	-
4	Destruction of habitat & displacement of fauna		Contractor	Part of pre-construction costs							
5	Predisposition to soil erosion due to the removal of vegetal cover.		Contractor	Part of pre-construction costs							
6	Soil contamination from oil spills from heavy equipment operation and fueling activities.	• Ensure fuel storage tanks are leak-proof, checked daily & installed in a bunded area • Establish procedures for storage & handling of hazardous materials. • Implement emergency response plan as part of OHS Plan to deal with spillage. • Implement site-specific Waste	Contractor	Part of pre-construction costs	Soil quality parameters (especially hydrocarbon contaminants) Compliance	In situ/ Laboratory analysis Visual	FMEnv soil pollutants permissible limit	Project Site	Once during pre-construction	ESS-IUFMP OYSMEWR	-

	Potential Impacts	Mitigation Measures	Responsibility For Mitigation	Cost of Mitigation (USD)	Parameters to be Measured	Method of Measurement	Performance Indicator	Sampling Location	Frequency of Monitoring	Responsibility for Monitoring	Cost of Monitoring (USD)
		Management Plan (WMP) that addresses waste minimization, generation, transport, disposal, and monitoring.			with fuel storage procedures	observation					
7	Waste generation from accumulation of cleared vegetal materials and demolished concrete waste	• Implement the site-specific Waste Management Plan (WMP) that addresses waste minimization, generation, transport, disposal and monitoring (see Annex 5) • Establish a waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of wastes.	Contractor	Part of pre-construction costs	WMP Waste Handling and Disposal Report	Visual observation	Requirements of WMP	Project Site	Once during site clearing and Preparation	ESS,-IUFMP OYSMEWR Oyo State Solid waste management authority	-
8	Surface water contamination as a result of sediment/pollutants run off from exposed soils	• Install sediment retention basins, silt fences or other similar devices at strategic locations to prevent run-offs of sediment/silt to surface water • Begin and complete as much work as possible during the dry season	Contractor	Part of pre-construction costs	Surface Water Quality	*In Situ*/ Laboratory Measurement	FMEnv water pollutants permissible limit	Ona River	Once during site clearing and Preparation	ESS,-IUFMP OYSMEWR	-
SOCIAL IMPACTS											
9	Increased traffic (traffic congestion) and risk of road traffic accidents and injuries.	• Ensure regular maintenance of vehicles and use of manufacturer approved parts. • Engage drivers with appropriate class of license and at least 3 years of experience. • Train drivers on defensive driving techniques, haulage & pedestrian safety. • Install speed control devises on vehicles • Minimize movement at peak hours • Where possible, use locally sourced materials to minimize transport distances • Provide and erect traffic signs	Contractor	Part of pre-construction costs	Vehicle maintenance records Drivers' license. Records of Drivers' Training Speed control measures	Visual Observation Interview	Traffic congestion occurrences & queue lengths	Project Site and Transport corridor	Weekly	ESS,-IUFMP FRSC Oyo State Road Traffic Management Authority Security personnel	-
10	Risk of occupational accidents, injuries and diseases to workers.	Implement site specific OHS Plan: - Provision of OHS orientation training and hazard specific training; - OHS responsibilities; rules & instructions; - Safe work practices; - Incident/Accident reporting; - Emergency contingency plan; - Provision and enforcement of use of PPE. - Explicit plans regarding initial response, triage, communication and transportation of casualties in the event of emergencies; - Prohibition of drug & alcohol use by workers while on the job; - Provision of first aid boxes & trained first aiders on site.	Contractor	Part of pre-construction costs	OHS Plan - Compliance with OHSP - No of workers trained No of accidents & injuries	Visual Observation Interview	Increase/ decrease in Lost Time Injuries (LTI).	Project Site	Weekly	ESS,-IUFMP OYSMEWR Oyo State Ministry of Health	-
	SUB TOTAL			-							-

	Potential Impacts	Mitigation Measures	Responsibility For Mitigation	Cost of Mitigation (USD)	Parameters to be Measured	Method of Measurement	Performance Indicator	Sampling Location	Frequency of Monitoring	Responsibility for Monitoring	Cost of Monitoring (USD)
B	**CONSTRUCTION PHASE**										
ROAD WORKS, SIDE DRAINS AND BRIDGE WORKS											
ENVIRONMENTAL IMPACTS											
1	Deterioration of ambient air quality due to the release of fugitive dusts and gaseous pollutants	• Use water suppression for control of loose soil materials on unpaved surfaces. • Cover trucks for transporting loose materials that may generate dust. • Ensure emissions from vehicles comply with specified national standards. • Train drivers/ workers on proper operation of vehicles & equipment to include fuel efficiency and anti-idling techniques.	Contractor	Part of construction costs	Gaseous pollutants such as SO2, NO2, CO2, CO, VOCs, H2S, TSP. Vehicular emission	In-situ Air Quality Measurement	FMEnv air pollutants permissible limit	Project site	Fortnightly	ESS,-IUFMP OYSMEWR	-
2	Noise and vibration disturbances from operation of machineries & motorized equipment.	• Restrict all haulage and noise generating activities to working hours during the day when noise is better tolerated. • Avoid unnecessary idling of internal combustion engines • Install suitable mufflers on engine exhausts • Ensure the maintenance of all equipment in accordance to manufacturer's specs. • Ensure vehicle travelling in project area are operated in accordance with speed limits to reduce noise levels. • Develop a mechanism to record and respond to noise complaints. • Provide and enforce the usage of hearing protection devices (ear plugs/muffs).	Contractor	Part of construction costs	No of Complaints from affected communities Working hours Vehicle / equipment maintenance records Usage of ear plugs/ muffs	In-Situ Measurement of noise level	Noise Levels (Not to exceed 90dB(A) for 8 hours working period	Project site and nearby communities	Fortnightly	ESS,-IUFMP OYSMEWR	-
3	Soil erosion from exposure soil surfaces.	• Re-vegetate all bare and exposed soils with native vegetation immediately after construction to prevent erosion. • Use erosion protection structures such as sediment traps, riprap, gabions, etc. to capture run-off sediments. • Use gravel to cover unpaved access road surface for protection against erosion • Schedule ground-disturbing activities to avoid heavy rainfall and high wind periods • Design channels and ditches for post construction flow.	Contractor	See A5	Clearly defined boundaries of protected areas Evidence of re-vegetation Evidence of erosion protection structures	Visual observation	number and diversity of plant species within baseline conditions	Project Site Along approach roads	Monthly	ESS,-IUFMP OYSMEWR	-
4	Soil contamination from accidental leakage/spillage of fuel, oil and lubricants	See A6	Contractor	See A6	Soil quality parameters Compliance with fuel storage procedures	In situ/ Laboratory analysis Visual observation	FMEnv soil pollutants permissible limit	Project Site	Twice during Construction	ESS-IUFMP OYSMEWR	

	Potential Impacts	Mitigation Measures	Responsibility For Mitigation	Cost of Mitigation (USD)	Parameters to be Measured	Method of Measurement	Performance Indicator	Sampling Location	Frequency of Monitoring	Responsibility for Monitoring	Cost of Monitoring (USD)
5	Generation of spoils and other excavated materials.	• Implement a site-specific Waste Management Plan (WMP) (See A7). • WMP should identify how spoil will be handled, stockpiled, reused and disposed • Reuse excavated materials immediately as fill, or stockpile for later use or dispose off through approved waste vendor • Ensure stockpile & disposal area are stable, protected against erosion, not interfere with run off or construction activities. • Control off-site storm & flood water before it reaches areas being excavated to prevent run-off of sediment. Use temporary drainage channels with sedimentation traps • Install sediment silt fences or other similar devices at strategic locations to prevent run-offs of sediment/silt to surface water • De-silt river/stream channel	Contractor	See A7	WMP Waste Handling and Disposal Report	Visual observation	Requirements of WMP	Project Site	Weekly	ESS,-IUFMP OYSMEWR Oyo state Solid waste management authority	-
6	Generation of construction waste and debris										
7	Surface water contamination as a result of sediment/pollutants run off from spoils and exposed soil surfaces.		Contractor	See A8	Surface Water Quality	In Situ/ Laboratory Measurement	FMEnv water pollutants permissible limit	Ona River	Twice during Construction		-
8	Increased surface water run-off due to diversion during construction.										
9	Groundwater contamination from accidental spillages and leakages of oils and other chemicals.	• Ensure fuel storage tanks are leak-proof, checked daily & installed in a bunded area • Establish procedures for storage & handling of hazardous materials. • Implement emergency response plan as part of OHS Plan to deal with spillage. • Implement site-specific WMP.	Contractor	See A6	Groundwater quality parameters Compliance with fuel storage procedures	In situ/ Laboratory analysis Visual observation	FMEnv groundwater pollutants permissible limit	Nearby communities	Twice during Construction	ESS,-IUFMP OYSMEWR	-
SOCIAL IMPACTS		• Use utility survey maps to avoid damage to existing underground infrastructure and subsequent disruption of services • Where a need for shut down of service is necessary, it should be as temporal as possible to avoid significant adverse effect on the people	Contractor	Part of construction costs	• Complaints to Utility Service Providers	Interview	Zero disruption of utility services	Nearby Communities	Twice during Construction	Social Development Specialist (SDS), IUFMP Egbeda LGA	-
10	Damage to existing underground public utility cables and pipes and disruption of services										
11	Increase demand on existing community health and sanitation infrastructure due to influx of temporary workers and camp followers.	• Establish worker's camp and provide all basic amenities (water, sanitation etc) to workers. • Promote access to community services by supporting infrastructural development in host communities. • Implement community-based Grievance Redress Mechanism (GRM) (See Annex 6 for GRM).	Contractor IUFMP	Part of construction costs5,000	No of amenities in workers camp No of new amenities provided	Visual observation GRM	Availability of all essential amenities in workers' camp	Worker's camp Nearby Communities	Monthly	SDS, IUFMP ESS, IUFMP Egbeda LGA Oyo State Min of Works	-
12	Threat to community culture, safety and security associated with presence of construction	• Develop an induction program including a code of conduct for all workers. The code of conduct will address the	Contractor	Part of construction cost	No of workers sensitized.	Interview	Community perception and level of	Nearby communities	Monthly	SDS, IUFMP Communication	-

	Potential Impacts	Mitigation Measures	Responsibility For Mitigation	Cost of Mitigation (USD)	Parameters to be Measured	Method of Measurement	Performance Indicator	Sampling Location	Frequency of Monitoring	Responsibility for Monitoring	Cost of Monitoring (USD)
	workers and business opportunists.	following aspect: - Respect for local residents; - No hunting or unauthorized taking of products or livestocks; - Zero tolerance of illegal activities such as child sexual exploitation and underage sex, prostitution, harassment of women, gender based violence, purchase or use of illegal drugs, illegal fighting; - Disciplinary measures and sanctions (e.g. dismissal) for infringement of the code of conduct and/or company rules. - Commitment / policy to cooperate with law enforcement agencies investigating perpetrators of gender-based violence; • Ensure a copy of the code of conduct is presented to all workers and signed by each worker. • Provide cultural sensitisation training to improve awareness of and sensitivity of workers to local cultures, traditions and lifestyles. • Prohibit child and forced labour. • Implement community-based Grievance Redress Mechanism (GRM) [See Annex 6 for GRM]. • Limit the number of migrant workers by engaging local workers. • Engage competent security personnel.			Code of conduct developed for workers Level of awareness of workers to local cultures Awareness of grievance procedures. No of local workers Presence of security personnel		satisfaction. Increase or decrease in social vices			Specialist, IUFMP Egbeda LGA Security personnel	
13	Risk of communicable diseases such as sexually transmitted diseases (STDs) including HIV/AIDS from influx of temporary construction workers.	• Institute HIV prevention program to include peer education, condom distribution etc • Liaise with appropriate health focused NGOs to undertaking health awareness and education initiatives on STDs amongst workers and in nearby communities. • Provide opportunities for workers to regularly return to their families. • Implement community-based Grievance Redress Mechanism (GRM) [See Annex 6]	Contractor IUFMP	Part of construction cost 2,500	Level of Awareness and Education No of new STI cases	Records Interview	Level of awareness. % of STD cases among workforce & communities	Nearby communities Health care facilities Site Clinic	Twice during Construction	SDS, IUFMP ESS, IUFMP Oyo State Min of Health Egbeda LGA	-
14	Increased traffic & risk of road traffic accidents and injuries.	• See A9	See A9	See A9	See A9	See A9	See A9	See A9	Weekly	See A9	-
15	Respiratory and eye related problems for workers due to	• Implement project specific OHS Plan	Contractor	See A11	OHS Plan	Interview	Increase/ decrease in Lost	Project Site	Monthly	ESS, IUFMP	-

	Potential Impacts	Mitigation Measures	Responsibility For Mitigation	Cost of Mitigation (USD)	Parameters to be Measured	Method of Measurement	Performance Indicator	Sampling Location	Frequency of Monitoring	Responsibility for Monitoring	Cost of Monitoring (USD)
	exposure to dusts and gaseous emissions.	• Provide and enforce usage of appropriate PPE. • See A10			Compliance with OHSP See A10		Time Injuries (LTI).				
16	Risk of occupational accidents and injuries.										
	SUB TOTAL			**7,500**							-
C	**OPERATION PHASE**										
CULVERT & ROAD OPERATION AND MAINTENANCE											
ENVIRONMENTAL IMPACTS		• Implement a site-specific Waste Management Plan (WMP) (See A7 above).	Contractor	Part of maintenance cost	See A7	See A7	See A7	Project Site	Weekly during maintenance	Oyo state Solid waste management authority	-
1	Generation of solid waste from maintenance activities.										
2	Surface water contamination during maintenance works.	See A8	Contractor		See A8	See A8	See A8	Project Site		OYSMEWR	-
SOCIAL IMPACTS		Implement project specific OHS Plan.	Contractor		OHS Plan developed (See A10)	Visual Observation/ Interview	No. of Lost Time Injuries (LTI).	Project Site		Egbeda LGA	-
3	Risk of occupational accidents and injuries	(See A10)									
4	Risk of falls from bridge structures	Use of proper signages (in English and local languages) and engineering barriers to prevent falling off by community members and maintenance workers	Construction Contractor		Signages and barriers	Visual Observation		Oke Ayo Tuntun Culvert	Annually	Egbeda LGA	-
	SUB TOTAL			--							-
	GRAND TOTAL			**7,500**							-

3.3 Environmental and Social Monitoring Organization & Institutional Arrangement

The successful implementation of the monitoring program will depend on the commitment and capacity of the Project Implementation Unit (PIU), environmental and social safeguard consultants and other third parties (institutions) to implement the program effectively. The roles and responsibilities of those that will be involved in the implementation and monitoring of this ESMP are discussed in Table 3.3 while the institutional arrangement is shown in Figure 3.1.

Table 3.3: Roles and Responsibility of Institutions

S/N	Category	Roles & Responsibilities
1.	Oyo State Ministry of Environment & Water Resources	• Environmental monitoring and compliance overseer at the State level • Review of draft ESMP report (in liaison with Federal Ministry of Environment) • Site assessment and monitoring of ESMP implementation.
2.	Federal Ministry of Environment	• Lead role - provision of advice on screening, scoping, review of draft ESMP report (in liaison with State Ministry of Environment and Water Resources), receiving comments from stakeholders, public hearing of the project proposals and social liability investigations, monitoring and evaluation process and criteria.
3.	Safeguard Unit, IUFMP (Environmental & Social)	**Environmental Safeguards** • Collate environmental baseline data on relevant environmental characteristics of the selected project sites; • Analyze potential community/individual sub-projects and their environmental impacts; • Ensure that project activities that are implemented will in accordance to best practices and guidelines set out in the site specific ESMP; • Identify and liaise with all stakeholders involved in environment related issues in the project; and be responsible for the overall monitoring of mitigation measures and the impacts of the project during implementation. **Social Safeguards** • Develop , coordinate and ensures the implementation of the social aspects of the ESMP • Identify and liaise with all stakeholders involved in social related issues in the project; • Conduct impact evaluation and beneficiaries assessment; and • Establish partnerships & liaise with organizations, Community Based Organizations (CBOs), Civil Society Organizations (CSOs).
4.	PIU	• Liaise closely with Oyo State Ministry of Environment and Water Resources in preparing a coordinated response on the environmental and social aspects of project development respectively. • Safeguards due diligence.
5.	Contractor	• Compliance to BOQ specification in procurement of material and construction • Implement ESMP during project implementation
6.	Supervising Engineer	• Preparation of the engineering designs for the project. • Provides an independent oversight ensuring contractor adhere strictly to the engineering specifications
7.	State Government MDAs	• Other MDAs come in as and when relevant areas or resources under their jurisdiction or management are likely to be affected by or implicated projects. • They participate in the EA processes and in project decision-making that helps prevent or minimize impacts and to mitigate them. These institutions may also be required to issue a consent or approval for an aspect of a project; allow an area to be included in a project; or allow impact to a certain extent or impose restrictions or conditions, monitoring responsibility or supervisory oversight.
8.	Oyo state solid waste management authority	• Inspection of project premises in order to ensure strict compliance with sanitation and waste management standards in the state. • Collaboration with other MDAs at the State and Federal level, NGOs and Donor Agencies in environmental protection and management especially in areas of waste recycling etc.
9.	Egbeda LGA	• Provision of oversight function across project within its jurisdiction for ESMP compliance. • Monitoring of activities related to public health, sanitation, waste management amongst others.
10.	Affected Community	• Promote environmental awareness. • Review environmental and social performance report made available by PIU. • Provide comments, advice and/or complaints on issues of nonconformity. • Attend public meetings organized by the PIU to disseminate information and receive feedback.
11.	CDA	• Ensure community participation by mobilizing, sensitizing community members;
12.	NGOs/CSOs	• Assisting in their respective ways to ensure effective response actions, conducting scientific researches alongside government groups to evolve and devise sustainable environmental strategies and techniques.
13.	World Bank	• Overall supervision and provision of technical support and guidance. • Recommend additional measures for strengthening the management framework and implementation performance; • Supervising the application and recommendations of sub- project ESMPs.
14.	Others/General Public	• Identify issues that could derail the project and support project impacts and mitigation measures, Awareness campaigns.

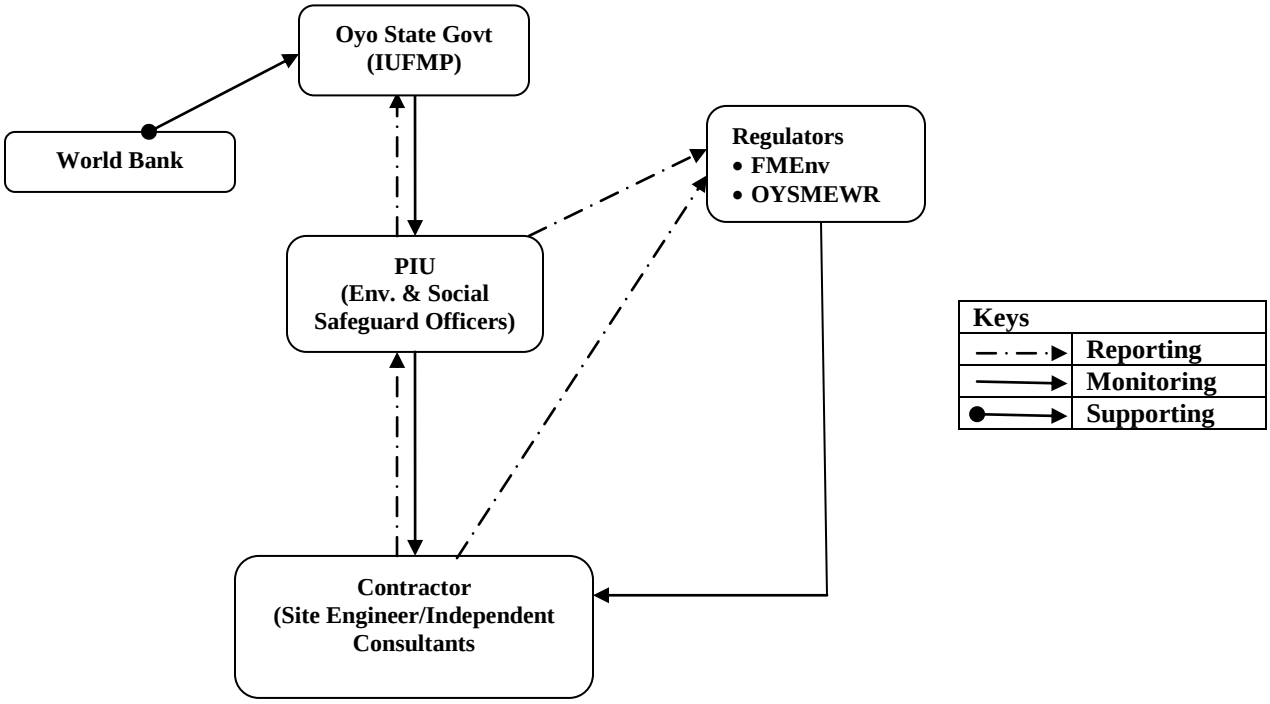


Figure 3.1: Institutional Arrangement for ESMP Implementation

3.4 Training, Awareness and Competence

Training is essential for ensuring that the ESMP provisions are implemented efficiently and effectively. The PIU shall therefore ensure that all persons that have roles to play in the implementation of the ESMP are competent with appropriate education, training or experience. Similarly, the contractors shall be required to undertake general HSE awareness for their project workforce and specific training for those whose work may significantly have impact on the environment. This is to ensure that they are fully aware of the relevant aspects of the ESMP and are able to fulfill their roles and functions. As a minimum, the contractors shall ensure they provide the training in Table 3.4 to their personnel:

Table 3.4: Contractor's Training Programme

S/N	Training Programme	Courses
1	General Awareness Health, Safety and Environment (HSE)	HSE Induction/Orientation Course (site safety rules, PPE requirements, Emergency Preparedness and Response); Daily tool box talk for workers at the start of each day's job; Refresher HSE Courses as at when required
2	Project Specific Occupational Health and Safety (OHS)	Manual Handling Techniques; First Aid Training (for Site First Aiders); Safe Driving Techniques (for drivers)

The contractor will be required to forward internal HSE training and procedures to the PIU for approval before commencement of civil works.

Based on the assessment of the institutional capacities of the different agencies that will be involved in the implementation of the ESMP, two broad areas of capacity building have already been identified and recommended for effective implementation of the ESMP. The proposed training program, course content and estimated costs are shown in Table 3.5.

Table 3.5: Proposed Training Program for the Implementation of ESMP

Capacity Building Activity	Proposed Topics	Objectives	Target Audience	Duration	Estimated Budget (USD)
Module 1: Training on Environmental and Social Management Plan Implementation	• Overview of Environmental Impact Assessment • Overview of Potential Impacts of Project • Environmental Pollution & Control • Environmental and Social Management Plan • Basic Environmental Management • Environmental Performance Monitoring – Monitoring Mitigation Measures • Environmental Reporting	To enhance competence in environmental sustainability and regulatory practice	Safeguard unit of the PIU, relevant staff of FMEnv (EA Dept), Relevant staff of Oyo State Ministry of Environment and Water Resources, Oyo State Waste Management Authority other relevant MDAs, LGA departments, Contractors, NGOs, CBOs.	1 day	2,000
Module 2: Training on Construction HSE	• Introduction to Construction HSE • Overview of Health and Safety Hazards in Construction • Incidents: Causation, Investigation & Reporting • Excavation Safety • Site Specific OHS • Construction Site Inspection • Personal Protective Equipment	To ensure completion of project with zero fatalities, zero Lost Time Injuries (LTI) or occupational illness by promoting safe & healthy working conditions as well as the health of workers and those that will be involved in monitoring.	Safeguard unit of the PIU, M&E Officers and Project Engineers from PIU, relevant staff of FMEnv (EA Dept), Relevant staff of Oyo State Ministry of Environment and Water Resources, Oyo State Waste Management Authority, other relevant MDAs, LGA departments, Contractors, NGOs, CBOs.	1 day	2,000
	TOTAL			**2 days**	**4,000.00**

3.5 Monitoring and Reporting

3.5.1 Monitoring Activities

The monitoring plan (Internal and External Monitoring) for the ESMP is presented in Table 3.6. Monitoring results shall be documented with preventive/corrective actions to be implemented.

Table 3.6: Internal and External Monitoring

Monitoring	Action	Responsibility	When	Deliverables
Internal Monitoring	Regular site visit (Frequency is defined in Table 3.2) to ensure that the mitigation measures and actions specified in the monitoring plan and as bound by the contract is satisfactorily implemented.	Environmental and Social Safeguard Officers from PIU. (Environmental & social performance monitoring checklist is included as Annex 7).	During Preconstruction Construction and Operation Phases	Monitoring Reports and documentation as described in Sub-section 3.5.2
	Site visit for monitoring and inspection to ensure contractor adhere strictly to the engineering designs and specifications for the project	Independent Supervising Engineer	During Construction Phase	Observations and Monitoring Reports to be compiled and presented to the PIU.
External Monitoring	Regular site visit to ensure project is implemented in an environmentally & socially sustainable manner using the monitoring indicators specified in the monitoring plan and other national and international environmental & social requirements	FMEnv, Oyo State Ministry of Environment and Water Resources, Representatives of affected communities, and other relevant MDAs.	During Preconstruction Construction and Operation Phases	Inspect monitoring reports from Safeguard unit and provide feedback on observations. Enforce corrective actions where necessary.

3.5.2 Reporting Procedures

The reporting procedures presented in Table 3.7 have been developed in order to ensure that the PIU is able to receive feedback from the implementation of the ESMP on an ongoing basis and to take rapid corrective actions if there are issues of non-conformance.

Table 3.7: Reporting Procedures

Phase	Responsibility	Deliverables	Accountability
Preconstruction	Safeguard Unit	Report of monitoring activities including any specific events	PIU, also OYSMEWR & FMEnv on request
Construction	Safeguard Unit	Two (2) monitoring Reports First to be prepared mid way into the civil works and the other upon completion of all construction activities.	PIU, also OYSMEWR & FMEnv on request
	Safeguard Unit	Additional Reports according to specific conditions e.g. Accidents, serious environmental/social impacts	Same as above
Completion of construction and demobilization of contractor from site	Safeguard Unit	Final Monitoring Report including all monitoring activities throughout project implementation	PIU. Report to be archived and made available to the World Bank, OYSMEWR & FMEnv on request

3.5.3 Record Keeping and Control

The contractor is required to keep records providing evidence of ongoing mitigation activities. Such records may include site monitoring plan, HSE Policy, Site Specific HSE Plan, Waste Management Plan, Traffic Control Plan, Emergency response and preparedness procedures, site instructions, training records, complaints records, incident report, Inspection, maintenance and equipment calibration records. These documents should be made available to the Safeguard Unit upon request.

The Safeguard Unit is also required to keep records to provide evidence of monitoring activities and effectiveness of the monitoring plan. The site monitoring Plan, identified problems/corrective actions and monitoring Reports highlighted in sub-section 3.5.2 are to be kept by the Safeguard unit and be made available to relevant regulators upon request. In addition, all significant communications with FMEnv, Oyo State Ministry of Environment and Water Resources and other relevant authorities should be documented and kept. These documents are required to track performance to achieve and demonstrate compliance with the monitoring plan and applicable regulatory requirements.

3.6 Implementation Schedule

The activities related to environmental management and monitoring have to be integrated in the overall construction schedule. The project implementation phase is estimated to be completed in five (5) months. The implementation schedule is presented in Table 3.8.

Table 3.8: Tentative ESMP Implementation Schedule

S/N	Activity Description	Responsible	Preconstrution (Week)				Constructiuon (Month)					Operation
			1	2	3	4	1	2	3	4	5	
1.	Clearance and Formal Disclosure of ESMP	PIU										
2.	Inclusion of Environmental & Social Requirements in Bid Docs	PIU										
3.	Allocating Budget for ESMP	PIU										
4.	Appointing Support Staff for ESMP	PIU										
5.	Review & Approval of Contractor's ESMP, Waste & Safety Plan	PIU										

6.	Finalization of Engineering Designs	PIU/Engineering Design Consultant											
7.	Mobilization to site	Contractor											
8.	Construction Phase	Contractor											
9.	Implementation of Mitigation	Contractor											
10.	Supervising ESMP Implementation	PIU											
11.	Monitoring & Reporting on ESMP Implementation	PIU/Relevant MDAs											
12.	Environmental and Social Training	Environmental and Social Consultant											
13.	Environmental and Social Auditing	PIU/OYSMEWR/ Consultant											

3.7 Contractual Measures

Most of the mitigation measures are the obligation of the Contractor during all phases of the project. Consequently, the potential contractor will have to prepare their proposals taking into account the measures in Table 3.9 as well as the detailed general environmental management conditions during civil works attached as Annex 8.

Table 3.9: Contractual Measures

Action	Remarks
The measures as described in this ESMP be included in the tender documents with appropriate flexibility to adjust these measures to site circumstances, and that the potential contractor will have to prepare their proposals taking into account these measures.	The non-inclusion of these measures in the proposal will lead to a disqualification of the proponent; The contract with the successful bidder should contain these environmental and social management measures as firm conditions to be complied with.
Specifically, the measures should be translated into a suite of environmental specification that are written in the same language style and format as the rest of the contract document	This approach will ensure that the environmental and social controls integrate seamlessly into the tender document and are presented in a familiar form to the Contractor
Cost of mitigation measures be added to the cost of the contractual document	The contactor must take into account and put the cost for the environmental and social requirements specified in the ESMP.

3.8 Cost Estimates for ESMP Implementation

To effectively implement the mitigation and monitoring measures recommended in this ESMP, necessary provision will have to be made. The cost of these measures have been estimated and included in the ESMP and presented in Table 3.10. The cost of mitigation by the Contractor will be included in the contract as part of the implementation cost by the Contractor. The total estimated cost for the ESMP implementation and monitoring is **US$ 12,650.00 (N3, 858,250.00).**

Table 3.10: Estimated Budget for the Implementation of ESMP

Item	Responsibility	Cost Estimate in Nigerian Naira (N)	Cost Estimate in US Dollars (US$)
Mitigation	Contractor	Part of construction cost	
Mitigation	IUFMP	2,287,500	7,500
Capacity Building	PIU, Oyo State Ministry of Environment & Water Resources /Other relevant MDAs	1,220,000	4,000
Sub- Total		3,507,500	11,500
Contingency	10% of Sub- Total	350,750	1,150
Total		**3,858,250**	**12,650.00**

3.9 ESMP Disclosures

After the ESMP review and clearance by the World Bank, the following below in table 3.11 describes the process of disclosure.

Table 3.11: Disclosure procedure

s/n	Action	Remarks
1	Disclosure on 2 state newspapers	The PIU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
2	Disclosure on 2 local newspapers	The PIU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
3	Disclosure at the Oyo State Ministry of Environment and Water Resources	The PIU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
4	Disclosure at the IUFMP office	The PIU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
5	Disclosure at the Local Government Office & the host community	The purpose will be to inform stakeholders about the project activities; environmental and social impacts anticipated and proposed environmental and social mitigation measures.
6	Disclosure at the World Bank Info Shop	The ESMP will be disclosed according to the World Bank Disclosure Policy- OP/BP 17.50

CHAPTER FOUR: PUBLIC CONSULTATION

4.1 Introduction

A public consultation forum was held on the 11th January, 2017 at Oke Ayo in Egbeda LGA, Oyo State during which an overview of the IUFMP, the proposed intervention as well as the scope and objectives of the ESMP were presented to stakeholders. Furthermore, the challenges that could impede the implementation of the sub project, potential environmental and social impacts that could arise from civil works and the support needed from beneficiary communities to ensure successful implementation were also discussed.

4.2 Summary of Proceedings at Public Consultation Forum

Below is a summary of the issues/comments raised by the various stakeholders and how the issues were addressed at the meeting. Pictures taken and attendance at the forum are attached as Annexes 9 and 10 respectively.

Table 4.1: Summary of Proceedings at Public Consultation Forum

Items	**Description**
Date of Public consultation	11 January 2017
Name of Stakeholders (community)	Oke-Ayo Tuntun, Egbeda LGA
	Oki, Abiola, Oke Ayo Titun, Oro Gbangba, Kikumada, Ogungbade, Kumapayi, Ifesowapo, Papa, Atari-Agbon, Ifelodun, Ajangba, Ile Titun, Amero, Ori-ile, Wakajaye, Olosha Oko, Oki, Oloshooko, Wakajaiye, Pineapple, Baba Sogo, All Chairmen of Landlord Association, Opinion Leaders, Community Based Organization, Women Groups (Market Women Association), NURTW Organization, Trade Organization, Youth Organization, Religious Organizations
Language of communication	*English/Yoruba*
Introduction	The Social Development Specialist, IUFMP gave the opening remark, giving a brief history of IUFMP which was founded following the 2011 floods with assistance from the World Bank. The IUFMP engineer spoke on the design aspect of the project and what were taken into consideration in arriving at the design chosen for the project. He remarked that the culvert would sit on a pile foundation that would be able to carry the load of the culvert. He said it is not a bridge that would be constructed, but a large rectangular culvert with dimensions 3 by 3.5 m. The approaches and side drains would also be constructed. The consultant spoke on the need for the ESMP, stressing that it is safeguard tool that would be put in place to use before, during and after the construction. It is for the contractor to use and for the community to hold him accountable to for the purpose of monitoring. The consultant highlighted on the scope of the ESMP study and the need for public/community consultation in order to more efficiently deliver improved project sustainably and to protect the interest of affected communities, especially the poor and vulnerable.

Issues/Comments Raised by the stakeholders	**How they were/are addressed by the Consultant or Project Officers**
The vice-chairman of the Landlord Association for Oke Ayo Tuntun, Deacon Akinbola J.A. in his speech assured the team that would be nothing like disturbances and restiveness that would arise during the course of the construction project.	
Alternate access roads that would link the community with the good portion of the road were pointed out. It was requested that the road be graded so that it would be useful during the period of construction.	The consultant reassured the community that the alternate access road would be graded before the commencement of the bridge.
Mrs G.O. Oyewale, the women leader for the community pointed out that there are 2 possible alternate routes and the one through Orelope is shorter and requested that the two be worked on to make life easier for members of the community.	The consultant responded by that the two roads will be thoroughly considered so that the best would be chosen. The vice chairman also contributed that an alternate road has been picked by the association after consultation with Egbeda LGA and the road has been graded by the LGA to its present condition.

Mr Ogunleke Olubayo, the youth leader, raised the issue of a pedestrian bridge with rail guards near the collapsed bridge during the course of the construction to ease human traffic	The consultant assured the community that the request would be included in the ESMP report to be prepared and handed over to the contractor
Mr Adeagbo Ademola, the chairman of NURTW, okada unit appreciated the creation of the alternate route and said it would not even be necessary that the bridge accommodate okadas.	The IUFMP social specialist stated that the practice in other projects is to limit the use of the pedestrian bridge to human traffic alone and exclude okadas.
Mr Ojeniyi M.O., a landlord and a teacher at the community primary school canvassed for the construction of proper drainages leading to the bridge.	The point were noted by the team
Pastor Aremu mentioned the occurrence of accidents on the road because of the bad state of the bridge. He appealed to the team that the gutters should be very wide.	
Mr Adebayo Kolade said the water diverted from Wakajaye was responsible for the collapse of the bridge and due to the sandy nature of the area	
Mr Ogunleke Olubayo, the youth leader mentioned the possibility of increase in transport fares since cabs and motorcycles will be taking longer routes. He appealed for the cooperation of members of the community with the transport operators.	The vice-chairman of the Landlord Association Deacon Akinbola J.A. responded by saying any increase in transport fares would be discussed with the representatives of the NURTW at the landlords' association meeting.
A landlord from the community, elder Abraham Olusola Alade, mentioned the difficulties faced by residents of the area. Vehicles are usually parked on the road once there is rain and the anxieties of parents for the safety of their children. He pledged the community's assistance during the course of the construction.	The consultant appreciated the pledge of support from the respondent.
Mr Ogunleke Olubayo, the youth leader reassured the team that there would be adequate security for the equipment and lives of the contractors when the project starts. He also requested for the use of sophisticated equipment for the construction.	The social consultant assured him that those coming are experts in their fields of specialisation and would do a very good job.
Mr Awobode, a member of the road committee said they are really ready for the project and they would cope with the inconveniences.	
Mr Alagbe T.O. said although there would be individual differences, the committee is ready to assist when some residents may want to raise objections to the construction because of their health or properties.	
The vice-chairman of the Landlord Association Deacon Akinbola J.A. raised the issue of drainages and the possibility of affecting properties. He urged the construction team to follow the master plan accordingly. He said the community has agreed that however is affected would have to bear it. He said there is a standing committee that would see to it. He also promised the provision of security agents to be provided by the community.	
Mr Aderogba F.A. requested that the road be extended upwards toward the express to avoid rancor among different segments of the community.	The vice-chairman of the Landlord Association Deacon Akinbola J.A. responded by saying that the annexes to the bridge, 1km on both sides that would be constructed will be done to extend the life of the bridge, but that it is not the primary focus of the construction.
Reverend Owolabi Isreal, an auditor for the association requested that the time interval mentioned at an earlier meeting should not be exceeded so that the project would be completed on time.	

The youth leader, Mr Ogunleke Olubayo raised the point of using local labour and if possible, the supply of materials for the project.	He was told that it is a possibility, it would be discussed with the contractor but it would be left to the discretion of the contractor. Engineer Akannbi clarified the focus of the project. He said the factors contributing to flooding are the main assignment of the project. He said the design has already been concluded. The alternate access roads and drainages are safeguards and reliefs. He also assured the community that adjoining roads would also be treated but not to the detriment of the main objective of the project.

Table 4.2: Summary of Concerns from FGDs and IDIs

Issues Raised	**Responses from the Participants**
Access to the community	The participants in all the FGDs and IDIs agreed that the bridge in the community has collapsed. Some respondents opined that the present palliative measure taken by the community can only accommodate motorcycles and sturdy vehicles, and would not withstand the start of another rainy season
Description of the means of livelihood of the community	Some residents are civil servants, artisans, traders and professionals like lawyers, engineers, doctors, nurses, retirees, transporters and a few farmers.
Description of the health status of members of the community	Members of the community were said to be of reasonably good health, with the common ailment being malaria and cough. A few of the elderly also suffer from stroke and hypertension. They said there is no Government hospital in the area, only a few substandard private clinics.
Communities most likely to be affected as a result of the intervention and how they will be affected	Communities to be affected are Oki, Abiola, Oke Ayo Titun, Oro Gbangba, Kikumada, Ogungbade, Kumapayi, Ifesowapo, Papa, Atari-Agbon, Ifelodun, Ajangba, Ile Titun, Amero, Ori-ile, Wakajaye, Olosa Oko, Oki, Oloshooko, Wakajaiye, Pineapple, Baba Sogo
Description of the Population of the community	Youths make up the predominant portion of the community, followed by the middle aged and the elderly. Many youths in the community are artisans and can provide the workforce if needed.
How the intervention will impact on the health of the people of the community	Some residents listed headache, cough, catarrh, and fever as the common ailments that would likely surface during the period of construction because of the dust and smoke that will accompany the construction.
How will the construction affect the economic activities of the people in the community	A number of residents mentioned the possibility of delay for civil servants during the construction because of the longer route they will take. Some also submitted that economic activities may be reduced.
Effect of the construction on the accessibility to the community	Most respondents said the upper portion of the community would be cut off once the construction work begins. Cars and motorcycles are presently utilizing the palliative measure of stones and granites poured on a portion of the road by the community.
Effect of the construction on vulnerable groups	A portion of the residents were of the opinion that the construction may make school children go late to school, pregnant women may go late for their scheduled visits to the clinic and the disabled may not be able to go out. Some residents said vulnerable members of the community would be assisted to cope with the difficulties during the period of construction.
How will the construction affect men and women differently?	The overwhelming majority said that women would be more affected because they do more work in caring for children, are usually responsible for purchase of food stuffs and other household goods, and are usually weaker than men. A few respondents feel it would have the same effects since both sexes are plying the same route.
What will be the effect of the construction on those whose livelihood are tied to the route	The majority felt that business of transport operators would be affected since they would have to take longer routes and the cost of maintaining their vehicles may also increase because of the condition of the alternate route that would be plied. Traders would also face the difficulty of conveying their goods to their various points of businesses.
Suggested measures to mitigate the negative environmental and socio economic impacts of the civil works	Respondents recommended the provision of a pedestrian bridge during the construction that will be strong, not too high and would also have rail guards to protect the elderly, school children and the handicapped. The contractor was encouraged to wet the road with water during construction in the dry season to reduce dust. The residents suggested the building of a health centre close to the community to make health

	care accessible to members of the community, especially during the period of the construction. The community urged the contractor to use sophisticated equipment that will make the culvert durable. The residents canvassed the employment of skilled local workers.

Table 4.3: Plan for Consultations for the Period of the Project

Timing /Phasing	**Stakeholder Groups**	**Key consultation points**	**Language of Communication**	**Responsibility**	**Items**	**Indicative Cost USD$**
Pre – Construction Phase	• Landlord Association • Opinion Leaders • Community Based Organizations • Women Groups • Okada Riders Organization • Youths Wing • Religious Organizations • Tradesmen and artisans • NGOs • Physically Challenged Associations	• Community perception and measures for enforcing social protection and social accountability • Environmental sustainability and measures for enforcing environmental sound management • The cooperation of the community members with the contractor • Security of lives of the construction workers • Safe work procedures for operations and activities • Security of equipment brought to the site by the contractor • Sensitizing communities on alternate routes • Availability of local workforce within the community	English/ Yoruba	IUFMP- Social Development Specialist, Environmental specialist & Communication Specialist /Consultant	• Consultants fees • Hiring and outfitting of meeting venues • Public opinion surveys • Preparation and distribution of materials • Staff time preparing, attending, and keeping records on public meetings • Maintenance of channels of communication (telephone • Hotline, radio announcements, or other means) • Travel expenses	1,500
Construction Phase		• Review of cooperation with the contractor • Review of security situation in the environment • Discussion of emerging issues not anticipated as a result of the construction • Review of accessibility to the community • Discussions on how the vulnerable and marginalized groups are coping	English/Yoruba	IUFMP- Social Development Specialist, Environmental specialist & Communication Specialist /Consultant	Same as above	2,000
Operations and Maintenance Phase		• Appreciation of the community members for their support and cooperation during the construction • Enlightenment on how to maintain the bridge/culvert constructed • Enlightenment on proper solid waste disposal to prevent blockage of water ways • Discussion on proper ways to maintain side drains along the approach roads. • Enlightenment on Disaster Risk Reduction measures.	English/Yoruba	IUFMP- Social Development Specialist, Environmental specialist & Communication Specialist /Consultant	Same as above	1,500
TOTAL COST						**5,000.00**

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

The reconstruction of the Oke Ayo Tuntun, Oki Olodo culvert will have highly beneficial impacts on the immediate communities in particular and Ibadan city at large as it will contribute to the improvement of flood water management in Ibadan city thus mitigating against avoidable flooding conditions, related asset destruction and morbidity as well as re-establishment of community connectivity.

Below are some of the recommendations that will enhance the overall sustainability of the proposed project especially during the implementation phase of the project:

- Affected communities should be duly informed and advised at least 2 weeks prior to commencement of works about any road diversions as well as alternative routes for heavy trucks and smaller vehicles.
- A temporary bridge with railings accessible by humans and motorcycle to ease movement of people and goods should be provided to serve the communities during construction. The temporary bridge will keep businesses alive; mitigate the problem of accessibility to the communities such that community members especially school children, market women, vulnerable groups who use the existing dilapidated structure to cross will not be totally cut off during construction.
- Priority should be given to local workers during project implementation in order to limit the number of migrant workers. This will reduce threats to community culture, health, safety and security as well as to stimulate local socioeconomic activities, improve livelihood and reduce poverty in the affected communities.
- Affected communities should be informed in good time about the commencement of civil works on the site. In addition, ongoing consultation with members of the affected communities especially during construction should be maintained to allow them freely express their views/concerns and make valuable contributions.
- Construction Safety signs boards and work area lightening should be installed to protect workers and the public around the construction site.
- Water should be used for dust suppression during civil works especially those involving excavations and other dust generating activities in order to protect nearby communities from respiratory and eyes problems and other health related challenges of dust.
- All bare and exposed soils should be re-vegetated with native vegetation immediately after construction to prevent erosion.
- Community-based Grievance Redress Mechanism should be developed and implemented to promptly and effectively resolve grievances from affected persons.
- Construction works should be carried out in an environmentally sustainable and socially responsible and inclusive manner.
- The Safeguard Unit of PIU should ensure active monitoring to ensure the contractor adhere strictly to the requirements of this ESMP especially in the application of mitigation measures during project implementation.

REFERENCES

- Project Implementation Manual (PIM).
- Integrated Safeguards Data Sheet (ISDS).
- Project Appraisal Document (PAD).
- Environmental and Social Screening Report.
- Environmental Rules and Regulations of the Oyo State Ministry of Environment and Water Resources.
- FEPA (1991): S.I.15 - National Environmental Protection Management of Solid and Hazardous Waste Regulation.
- IUFMP (2013) – Environmental and Social Management Framework (ESMF)
- IUFMP (2013) – Resettlement Policy Framework (RPF)
- UNEP (2002): Environmental Impact Assessment, Training Resource Manual
- World Bank (1999): Environmental Management Plan , OP 4.01 - Annex C
- World Bank (1996): Environmental Performance Monitoring and Supervision Update No 14
- World Bank (1999): Environmental Performance Indicators

Annex 1: TERMS OF REFERENCE

FOR THE PREPARATION OF AN ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS (ESMPs) FOR ADDITIONAL PRIORITY SITES UNDER THE IBADAN URBAN FLOOD MANAGEMENT PROJECT (IUFMP)

1.0 Background

The World Bank is supporting the Oyo State Government to implement the Ibadan Urban Flood Management project (IUFMP) that aims at developing a long-term flood risk management framework by initiating risk assessment, community awareness, and providing enough flexibility in the project design to make changes based on learning. The project also supports capacity building for flood risk management in the city of Ibadan. It reinforces Oyo State government's early warning and response capabilities and leverages existing World Bank projects in Oyo State in support of the IUFMP.

Specifically, the Bank's support will finance some priority investments related to improving the infrastructure of Ibadan City, especially those destroyed by August 26, 2011 floods. The Bank's support will help Ibadan reduce flood risks, improve waste collection and treatment, while developing and improving the quality of existing infrastructural assets. The project would be designed to keep a good balance between urgent post disaster needs (dredging, reconstruction of bridges, roads, etc.) and medium-to-long term needs (institutional support, upgrading existing and building new infrastructure to upgrade services and mitigate future risks). Selected sub - projects should comply with regional and local government plans, address critical issues described above to integrate planning and operational aspects that maximize the benefits of infrastructure investments to the beneficiary communities in the long run.

The Project Development Objective (PDO) is to "improve the capacity of Oyo State to manage flood risk and to respond effectively and promptly to flooding in the city of Ibadan".

In Oyo State, IUFMP activities involve medium-sized civil works such as construction of infrastructure and/or stabilization or rehabilitation in and around the Ibadan city. These could result in environmental and social impacts thus triggering the World Bank's Safeguard Policies including Environmental Assessment OP 4.01; Involuntary Resettlement OP4.12; Natural Habitats OP 4.04; Physical Cultural Resources OP 4.11, and Safety of Dams OP 4.37 and Public Disclosure OP 17.60.

The environmental and social safeguards concerns are being addressed through the national instrument already prepared under the project: an Environmental and Social Management Framework (ESMF). This framework instrument need to be translated into specific cost, measurable, and monitorable actions for specific intervention sites through the preparation of site-specific management and action plans.

ESMF: In general, the ESMF specifies the procedures to be used for preparing, approving and implementing:

(i) Environmental and Social Assessments (ESIA) and or
(ii) Environmental and Social Management Plans (ESMPs) for individual civil works packages developed for each project. ESMPs are essential elements for Category B projects.

2.0 SPECIFIC OBJECTIVES:

The specific objective is for the Consultant to assist Oyo State to undertake the necessary studies and prepare an Environmental and Social Management Plan (ESMP) for the proposed sub-project in compliance with the World Bank environmental, social safeguards policies and procedures as well as the Oyo State Ministry of Environment and Habitat and the Federal Ministry of Environment guidelines and procedures.
This Terms of Reference (TOR) is to request a consultant with extensive experience and skill in the preparation of Environmental and Social Management Plan Study Report for the Isokun Aroro Makinde Arulogun Ojoo Ona river culverts and Oke Ayo Tuntun Oki Olodo Ogbere River Culvert priority sites. The Terms of Reference (TOR) define the scope of work and core tasks to be undertaken by the Consultant. The Consultant is expected to make reference to the feasibility study report and engineering designs of the proposed bridge/culverts to be constructed. The documents should be obtained from the Project Implementation Unit (PIU).

3.0 GOAL OF THE WORK

The proposed reconstruction and stabilization of the hydraulic structures in the additional two priority sites (Isokun Aroro-Makinde Ojoo Arulogun Road culvert and Oke Ayo Tuntun Oki, Olodo Culvert will reverse the current trend as much as possible and preserve the due to inadequate sizing of the hydraulic structure in the two sites that results into flooding in the area.

Environmental and Social Management Plans (ESMP) were triggered during the screening exercise for the construction of the Isokun Aroro-Makinde culvert and Oke Ayo Tuntun Culvert and road approaches which is classified as **category "B"** project according to the World Bank categorization and a category II project according to the FMEnv categorization.

From the foregoing, the less significant environmental and social impacts that are likely to occur, can be reduced or minimized through compliance with appropriate mitigation measure. The nature of the project is such that it will not represent a large-scale intervention in the site and will not fundamentally change the environment if adequately mitigated.

4.0 RECONSTRUCTION OF THE OKE AYO TUNTUN , OKI, OLODE CULVERT:

4.1 OKE AYO TUNTUN, OKI, OLODE STUDY AREA:

The site is located at about 2km from Oki junction in Egbeda Local Government Area. The site falls within the Ibadan Metropolis and lies between x and y coordinates N819582; E610295. In the Oke Ayo Tuntun, Oki, intervention site, the consultant will visit the whole area as delimited in the given culvert stabilization design. This area is an average of 225m^3 around the culvert.

4.2 RATIONALE OF OKE AYO TUNTUN STUDY

As a result of inadequate sizing of the existing ring culvert, the single carriage way has been badly damaged due to erosion around the culvert and along the carriageway. This was as a result of continuous flooding in the area. Presently, there is an existing culvert which connects the communities on both sides, however, it is not properly sized and there will be need to train the river at both upstream and downstream of the culvert as the river bed is overgrown with weeds and shrubs.

The topography is a gentle slope and characterized by basement geological formations and Rocky /sandy soils. The vegetation in the area is composed mainly of few trees, high shrubs and grasses. However, the original vegetation has undergone modifications due to urban expansions and human activities.

Human activities have impacted on the environment resulting in series of environmental and social concerns such as dilapidated drainages near damaged culvert and aquatic weeds restricting flow of water.

Site Pictures

Eroded road drains with reinforce embankment by the communal efforts

Upstream with shrubs, no drainage in place

4.3 DESCRIPTION OF THE PROPOSED INTERVENTION

The proposed civil works includes:

(i) Demolition of existing ring culvert and construction a single cell (3m x 3.5m) box culvert;
(ii) construction of appropriate bed scour (upstream and downstream) and side protection to prevent erosion of the stream embankment,
(iii) Rehabilitation of roadway approaches of averagely 1km long, with asphaltic concrete finish . The minimum land area required for the proposed intervention is estimated at about 225m^2.

The earth works include demolition of existing partly collapsed culvert structure, channel protection, marker-posts and gauging staff. The earth works includes site clearing and disposal of debris at the approved dumpsites. The different activities during re - construction includes but not limited to the following:

Road works:

- Bush clearing;
- Scarification;
- Sub-grade preparation;
- Earthworks; and
- Construction of base course and asphalt layers

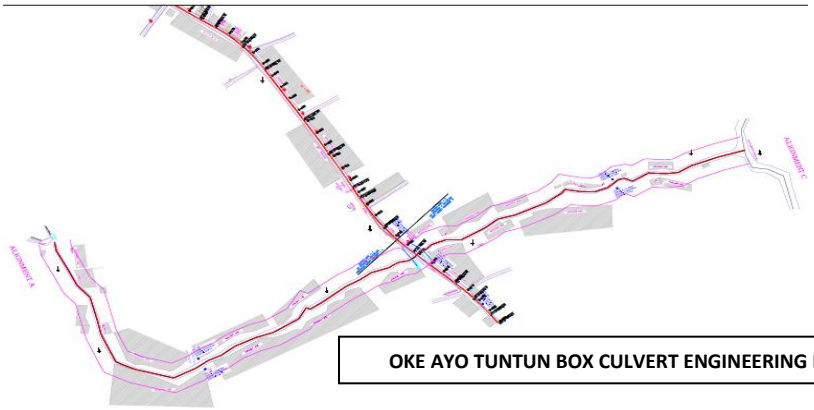
Side drains:

- Site clearing and excavation;
- Drainage structure and facilities;
- Retaining walls and earth – filling; and
- Any other ancillary works.

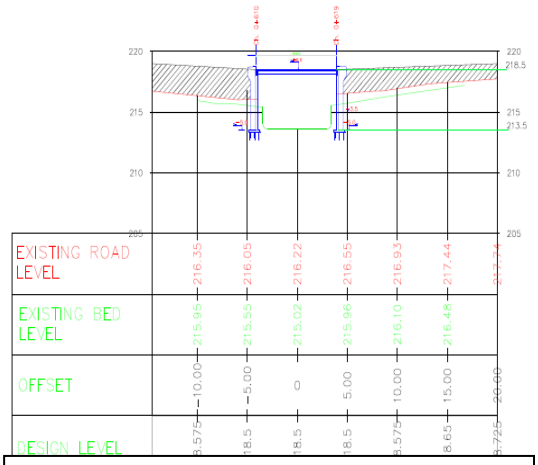
Culvert works:

- Demolition;
- Excavation;

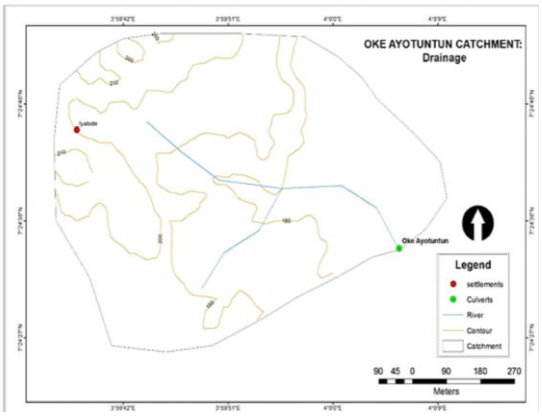
- Construction of reinforced concrete retaining wall; and
- Construction of superstructures including parapets.



OKE AYO TUNTUN BOX CULVERT ENGINEERING DESIGN/ TOPOGRAPHY



OKE AYO TUNTUN BOX CULVERT



5.0 SCOPE OF WORK:

The objective of the consulting services is to prepare an environmental and social management plans (ESMPs) for the proposed construction at the priority sites itemized above.
The ESMP should consist of a well-documented set of mitigation measures, monitoring, and institutional actions to be taken before and during implementation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. It should also include the measures required to implement these actions, addressing the adequacy of the monitoring and institutional arrangements at upstream and downstream in the intervention site.
The consultant is expected to work in close collaboration with the engineering design consultants and IUFMP Project Implementation Unit (PIU) safeguard team, and with other actors and consultants as directed by the PIU. The consultant will obtain a copy of the Engineering design in order to take into account the technical variants of the proposed activities and also in return, inform the technical design consultants of any major constraint that may arise due to the social and environmental situation on the ground.

The consultant will take into consideration the proposed civil engineering designs, vegetative land management measures and other activities aimed at reducing or managing runoff that would be carried out within the sub-watershed. The consultant will assess natural resources and infrastructures potentially affected during project implementation and operation and select the management strategies needed to ensure that environmental and social risks are appropriately mitigated.

5.1.0 THE CORE TASKS FOR THE CONSULTANT

These shall include:

- Review existing documentation of the IUFMP , all relevant safeguards documents and the PAD, PIM, and ESMPs prepared for the IUFMP;
- Review Environmental Assessment procedures of the World Bank safeguards policies especially Environmental Assessment (OP 4.01);
- Assess the potential environmental and social impacts related to project activities and recommend adequate mitigation measures, including costs estimation..
- Review institutional assessment and framework for environmental management.
- Identify responsibilities and actors for the implementation of proposed mitigation measures
- Assess the capacity available to implement the proposed mitigation measures, and suggest recommendation in terms of training and capacity building, and estimate their costs.
- Develop an Environmental and Social Management Plan (ESMP) for the project. The ESMP should underline
  (i) the potential environmental and social impacts resulting from project activities
  (ii) the proposed mitigation measures;
  (iii) the institutional responsibilities for implementation;
  (iv) the monitoring indicators;
  (v) the institutional responsibilities for monitoring and implementation of mitigation measures;
  (vi) the costs of activities; and
  (vii) a calendar for implementation.
- Public consultations. The ESMP results and the proposed mitigation measures will be discussed with relevant stakeholders, NGOs, local administration and other organizations mainly involved by the project activities. Recommendations from this public consultation will be include in the final ESMP report.
- Preparing the ESMP according to the generic contents presented hereafter.

5.1.1 The following socio-economic issues shall be addressed in the ESMP:

- Establish social baseline information before project intervention
- Determine the project's social impacts on health and social well-being ; quality of the living environment; economic material well-being ;Family and community ; and gender relations
- A summary of the impacted communities for the project: location, access, population (number, demographic and social characteristics); economy (employment rate, income distribution); services (types, capacity, and adequacy) and housing. Concern is the ability to provide work force, service new development and absorb and adjust to growth (worker/family).
- The report should identify and assess social impact identified during the public consultation process and those that, based on consultant's experience, are also likely to occur. In some instances the affected communities may not be aware of or be in a position to identify all the social impact that may occur. However, this does not mean that they will not occur. In such cases the consultant should use his/her experience to identify additional social impact that have not been raised by the public. A summary of the views of the population including vulnerable groups, determined through thoroughly documented discussions with local communities. These meetings and discussions must be documented and should show how issues and problems raised are or will be resolved
- Pay particular attention to the impacts of the project on vulnerable and marginalized individuals and groups (including but not limited to mobility impaired individuals and groups and People Living with Disabilities)
- Detail measures that will need to be taken to mitigate the negative social impact identified and the procedures for their implementation;
- Identify key uncertainties and risks**:** Identify and communicate any key uncertainties and risks associated with the accuracy of the findings of the social assessment, as well as of the proposed project. Some sources of uncertainty and risk commonly associated with projects are linked to: (a) Lack of adequate information at the community level; (b) Creation of employment and business opportunities for members from the local, historically disadvantaged communities; (c) The influx of job seekers and construction workers to the area and the impact on services; etc.
- Assess the impact of the construction on individuals and groups whose livelihoods are tied to the route/road (motor cycle taxi and tricycle operators etc.). As part of consultations, the ESMP should identify the potential negative impact on the livelihoods of these individuals and groups and propose appropriate mitigation measures
- Assess potential impact of the project on property access and suggest measures to minimize the effects on property access
- Information will be gathered from field surveys and secondary data sources (interviews, structured questionnaires, in-depth interviews and focus group discussions).

5.2.0 CONTENT OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The ESMP Report shall be presented in a concise format containing all studies, processes, analyses, tests and recommendations for the proposed intervention. The report shall focus on the findings, conclusions and any recommended actions, supported by summaries of the data collected and citations for any references used. The ESMP report will include the following topics:

Preliminary pages

Cover page
Table of contents
List of acronyms and their definitions
Executive Summary

Chapter 1: Introduction

- Description of the proposed intervention
- Objectives of ESMP
- Rationale for ESMP
- Relevant Maps

Chapter 2: Description of Baseline Conditions

- Description of the area of influence and environmental baseline conditions
- Analysis of existing livelihoods opportunities, income, gender characteristics, age profile, health, transport access, existing community structures.

Chapter 3: Environmental and Social Management and monitoring Plan (including:

- Discussion of the potentially significant adverse environmental and social impacts of the proposed project
-
- The proposed mitigation measures Institutional Responsibilities for Implementation;
- Monitoring programs;
- Institutional responsibilities for the implementation and monitoring of mitigation measures;
- ESMP Training requirements
- Indicative budget for ESMP implementation

Chapter 4: Public Consultation with Stakeholders

- This chapter shall summarize the actions undertaken to consult the groups affected by the project, as well as other concerned key stakeholders including Civil Society Organizations. The detailed record of the consultation meetings shall be presented in annex to the ESMP.

Chapter 5: Summary and Recommendations

Annexes

Annex 1: Terms of Reference
Annex 2 : List of Stakeholders consulted
Annex 3: Summary of World Bank Safeguard Policies
Annex 4: General Environmental Management Conditions for Constructions/Civil Works.
Annex 5: References
Annex 6: Photos
Annex 7 Questionnaire

The main text of the ESMP should focus on findings, conclusions and recommended actions, supported by summaries of data collected and citations for any references used in interpreting those data. It should provide a description of the specialist studies undertaken and the report should include a bibliography, maps, photographs, diagrams and any other diagrammatic representation required to facilitate understanding of the main text, detailed data should be presented in annexes or a separate volume. Unpublished documents used in the assessment should also be included or referenced in an appendix and the location of the originals of such documents indicated.

7.0 Qualifications and Experience of the Consultant:

The consultant should have:

- Experience with, and a professional/technical background appropriate for understanding both the environmental and social management implications of flood risk intervention projects, especially in urban areas, including their design, construction, operation and monitoring.

- At least five (5) years experience in practical safeguards, social and environmental management with demonstrated proficiency in the preparation, review, and approval of EAs/ESIAs/ESMPs to meet World Bank standards
- Excellent analytical, communication and writing skills.
- It is highly desirable that the consultant have experience with working with international development institutions like the World Bank, and on infrastructure related projects.

6.1.0 Deliverables and timing:

- **Inception reports:** Inception reports should be submitted about one week after awarding/signing of contract. The PIU shall double-check and ensure that the consultant has actually commenced work and that the consultant understands tasks.
- **Week 2:** A draft ESMPs will be submitted for comments in **Two weeks** from the date of signing the contract. It will identify all the areas, the mitigation measures, and the environmental and social issues associated with the site intervention sub-projects, as well as the adequacy of the monitoring and institutional arrangements in the intervention site.
- **Week 3:** The draft final ESMP Reports will take into account all comments, and will be submitted to the PIU at the end **of Three weeks** after commencement of contract.
- **Week 4:** The Final ESMPs will be submitted to the PIU **Four weeks** after commencement of the consultancy.
- The consultant will submit six (6) hard copies and a soft copy of the respective reports at each stage of the report for the specific sites.

Activities	Week 1	Week2	Week3	Week4
Contract Signing	X			
Submission of Inception Reports	X			
Meeting with the PIU		X		
Submission of Draft Reports		X		
Submission of Draft Final Reports			X	
Submission of Final Reports				X

6.2.0 Responsibilities of IUFMP

- The Consultant shall report to the Project Coordinator of the Project Implementation Unit of IUFMP.
- The PIU would review and discuss the Inception reports with the Consultant and necessary adjustment will be embarked upon.
- The Consultant would especially carry the PIU along in the Stakeholders consultative forum.
- The Consultant may seek Technical assistance from the PIU Specialists, especially the Safeguards Specialists of the PIU.
- The Draft Reports and Draft Final Reports would be reviewed by the PIU and relevant MDAs.
- In addition to the supervision and other responsibilities contained in the contract for this consultancy, the IUFMP shall provide the consultant with the following:
    - All relevant project instruments ;
    - Project Appraisal Document
    - Project Implementation Manual
    - World Bank safeguards policies;
    - Intervention design ;
    - Access to relevant officials, groups and communities

6.3.0 Payment Schedule

10% of Contract sum on submission of inception report
30 % of Contract sum on submission of Draft Report
40% of Contract sum on submission of Draft Final Report
20% of Contract sum of submission and Acceptance of Final Report

Annex 2: Summary of World Bank Environmental and Social Safeguard Policies

- Environmental Assessment (OP 4.01). This outlines Bank policy and procedure for the environmental assessment of Bank lending operations. The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA process. This environmental process will apply to the Oke Ayo Tuntun, Oki Olodo culvert sub-project.

- Natural Habitats (OP 4.04). The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. This policy does not apply to the proposed sub-project

- Pest Management (OP 4.09). The policy supports safe, affective, and environmentally sound pest management. It promotes the use of biological and environmental control methods. An assessment is made of the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. This policy was triggered by the proposed project; since improved agricultural activities could lead to increased use of pesticides. However, as due diligence, a pest management plan was prepared. This policy does not apply to the proposed sub-project.

- Involuntary Resettlement (OP 4.12). This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. The RPF reports discuss the applicability of this policy in detail.

- Indigenous Peoples (OD 4.20). This directive provides guidance to ensure that indigenous peoples benefit from development projects, and to avoid or mitigate adverse effects of Bank-financed development projects on indigenous peoples. Measures to address issues pertaining to indigenous peoples must be based on the informed participation of the indigenous people themselves. This policy does not apply to the proposed sub-project.

- Forests (OP 4.36). This policy applies to the following types of Bank-financed investment projects: (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. This policy does not apply to the proposed sub-project.

- Cultural Property (OP 4.11). The term "cultural property" includes sites having archaeological (prehistoric), paleontological, historical, religious, and unique natural values. The Bank's general policy regarding cultural property is to assist in their preservation, and to seek to avoid their elimination. Specifically, the Bank (i) normally declines to finance projects that will significantly damage non-replicable cultural property, and will assist only those projects that are sited or designed so as to prevent such damage; and (ii) will assist in the protection and enhancement of cultural properties encountered in Bank-financed projects, rather than leaving that protection to chance. This policy does not apply to the proposed sub-project.

- Safety of Dams (OP 4.37). For the life of any dam, the owner is responsible for ensuring that appropriate measures are taken and sufficient resources provided for the safety to the dam, irrespective of its funding sources or construction status. The Bank distinguishes between small and large dams. Small dams are normally less than 15 m in height; this category includes, for example, farm ponds, local silt retention dams, and low embankment tanks. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. This policy does not apply to the proposed sub-project.

- Projects on International Waterways (OP 7.50). The Bank recognizes that the cooperation and good will of riparians is essential for the efficient utilization and protection of international waterways and attaches great importance to riparians making appropriate agreements or arrangement for the entire waterway or any part thereof. Projects that trigger this policy include hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects that involve the use or potential pollution of international waterways. This policy is not triggered by the sub-projects' activities.

- Disputed Areas (OP/BP/GP 7.60). Project in disputed areas may occur in the Bank and its member countries as well as between the borrower and one or more neighbouring countries. Any dispute over an area in which a proposed project is located requires formal procedures at the earliest possible stage. The Bank attempts to acquire assurance that it may proceed with a project in a disputed area if the governments concerned agree that, pending the settlement of the dispute, the project proposed can go forward without prejudice to the claims of the country having a dispute. This policy is not triggered by the sub-projects' activities.

ANNEX 3: HOUSEHOLD QUESTIONNAIRE FOR THE ESMP

The Oyo State Government via Ibadan Urban Flood Management Project (IUFMP) intends to: (i) rehabilitate and stabilize the hydraulic structures in this priority site in order to reverse the current trend as much as possible and preserve the by-pass that is being degraded by the flooding pattern in the area; and (ii) reconstruct bridges, culverts and approach roads. IUFMP is financed with credit from the World Bank. The project is aimed to improve the capacity of Oyo State to manage flood risk and to respond effectively and promptly to flooding in the city of Ibadan. This interview forms part of the Environmental and Social Management Plan (ESMP) of the project. The aim is to find out how the project' civil works and process activities may affect the social wellbeing and quality of living environment in the area. We need your cooperation in answering the questions asked below. Your answers will be treated as confidential.

Please Tick the Appropriate Answers

SECTION A: IDENTIFICATION AND BACKGROUND CHARACTERISTICS

NO.	QUESTION AND FILTERS	CODING CATEGORIES	CODES	SKIP
A1	Name of State			
A2	LGA			
A3	Name of Town/City/ Community			
A4	Stratum	Urban Rural	1 2	
A5	Email (Optional)			
A6	Phone number (Optional)			
A7	Age Last Birthday			
A8	Gender of Respondent	Male Female	1 2	
A9	Marital Status	Never Married	1	
		Married	2	
		Separated	3	
		Divorced	4	
		Widow	5	
A10	What religion do you practice?	Christian	1	
A11	Highest Educational Attainment	No Formal	1	
		Primary School Not Completed	2	
		Primary School Completed	3	
		Secondary School Not Completed	4	
		Secondary School Completed	5	
		Post Secondary Education	6	
		Koranic Education	7	
A12	Occupation of respondents	Civil servants	1	
A13	How long have you lived in this community? (Years)			
A14	What sort of housing does your household live in?	Bungalow	1	
A15	What materials are used for your house?	Plastered mud	1	
A16	What is the main source of drinking water for members of	Piped water	1	
A17	What kind of toilet facility do members of your household	Flush or pour flush toilet	1	
A18	How would you describe the location of your home?	Flat ground	1	
A19	Which population group is mostly represented in this	Elderly	1	
A20	Are there many unemployed youth in this community?	Yes	1	
A21	In your opinion, do you think this community can provide	Yes	1	
A23	Which gender is likely to be mostly employed in this	Male	1	
SECTION B: SOCIOECONOMIC ATTRIBUTES				
Part B: Sources of income and livelihood				
B1	What is your regular source of income? (Naira)	B2 How much did you earn in the last one month		
B3	If you are in a wage employment, how much do you receive			
B4	Did you receive any financial or in-kind support from	Yes	1	
B5	If yes, complete the following table.			
	Source of financial support	1. Total amount (cash) received in the	2. Value of in-kind support received in	
B6	What is your Annual Income?	<50,000	1	
B7	**If Annual Income is not known**, what is your Monthly			
B8	Estimate the total annual incomes of other members of your	<50,000	1	
B9	**If Annual Income is not known**, what their Total Monthly			
B10	How much do you spend on food on average every day in			
B11	How much did your household spend on food in the last			
SECTION C: AVAILABILITY OF AMENITIES				
C1	How would you describe the condition of the following amenities in your community?			
C2	What is the major source of water available to your	River	1	
C3	If a public pipe borne water, how regular does the tap flow	Regularly	1	
C4	What is the primary source of electricity/ light to this	Hurricane Lamp	1	
C5	What is the secondary source of electricity? **(Please Tick**	Hurricane Lamp	1	
C6	What is the main fuel you use for cooking? **(Please Tick**	Firewood	1	
C7	How do you dispose your household waste?	Burying	1	
C8	Who is responsible for solid waste management?	Government	1	
C9	Indicate types/ of health care institutions in your community			
C10	How do you manage your health conditions when sick?	Attend hospital/clinic	1	
C11	If you do attend hospital/clinic, when last did you visit one?	Last six months	1	
C12	Do you have a fire management agency in the community?	Yes	1	
C13	How effective is fire service in your community?	Very effective	1	

C14	Have you had any security challenges in this community?	Yes	1	
	How effective is policing in your community?	Very effective	1	
C16	Where is the nearest police station?			
SECTION D PROJECT AND IMPACTS				
D1	Describe the level of awareness about this project in your	Very aware	1	
D2	If good, what positive impacts do you perceive (Tick as	Increase in employment opportunity	1	
D3	If bad, what negative impacts do you perceive (Tick as	Pressure on existing infrastructure Influx of	1	
D4	What impact do you think the construction work to be	Reduce business opportunity	1	
D5	Do you think the intervention will have any effect on the	Yes	1	
D6	If yes to D15, what effect do you think the intervention will	Skin diseases	1	
D7	What effect will the construction or rehabilitation have on	Serious Negative effect	1	
D8	How do you think this problem can be mitigated?			
D9	In your opinion, do you think the intervention will affect	Yes	1	
D10	Who are likely to be more negatively affected?	Male	1	
D11	How do you suggest that the flooding problem in this			
D12	• In what ways do you think the construction will	Improve their business	1	
D13	• In what ways do you think the construction will	Improve their business	1	
D14	• In what ways do you think the construction will	Improve their business	1	
D15	• How will the construction affect school	Stop them from going to school	1	
D16	• What effect will the construction have on the	Disrupt their movement	1	
D17	• What effect will the construction have on	Deny access to ante natal clinic	1	
D18	• What effect will the construction have on the	Impaired movement	1	

SECTION E: ENVIRONMENT			
E1	On what scale has damage to wildlife habitats occurred due to past flooding events	Large Medium Small None	1 2 3 4
E2	What species of animals exist in the community?	Fishes Amphibians Reptiles Aves Mammals None	1 2 3 4 5 6
E3	What are the major sources of air pollution?	Car fumes Industrial fumes Animal husbandry Burning Others Specify	1 2 3 4 5
E4	What are the major sources of noise pollution?	Transportation Construction Commercial and Industrial activities Social events household sources Others Specify	1 2 3 4 5 6
E5	What effects/changes have you noticed on the landscape due to flooding?	Increased sedimentation Increased runoff Soil contamination Erosion Salinization Land degradation Others Specify	1 2 3 4 5 6 7
E6	Are there any changes to the natural vegetation in the area	Yes No	1 2
E7	What are the major sources of natural vegetation loss in your area	Cleaning of drainage Channels along flood plains Land clearing Burning Urbanization Agriculture Others Specify	1 2 3 4 5 6
E8	What are the sources of surface/ground water pollution	Municipal wastewater Household waste Human waste Septic tanks Others Specify	1 2 3 4 5

ANNEX 4: PROJECT OCCUPATIONAL HEALTH AND SAFETY (OHS) PLAN

1.0 INTRODUCTION
Every project poses its HSE risks. This plan was necessitated to meet up with OHS standards and to achieve the objectives set for the proposed project. The project team shall undertake to ensure high performance standards and conformity with contract requirements by managing the works in a systematic and thorough manner.

2.0 PROJECT DESCRIPTION
The project entails the reconstruction of the Oke Ayo Tuntun, Oki Olodo Culvert.

2.1 Purpose
The purpose of this document is to describe the Project Occupational Health and Safety (OHS) plan for the proposed bridge reconstruction and the specific management controls, risk control systems and workplace precautions required to ensure compliance with Occupational Health and Safety Laws and Standards.

2.2 HSE Objectives
The Objectives for this plan are to:
- Adopt a positive Health & Safety Culture.
- Adopt the principles of prevention to avoid risk.
- Complete the project without incident (Zero fatalities, Zero Lost Time Injury (LTI) or occupational illness).

2.3 Scope of Work
The Project Occupational Health and Safety (OHS) plan covers the scope of works defined in the contract. This includes Preconstruction, Construction, Operation & Maintenance and Decommissioning phases.

2.4 Policy Statement
In addition to the existing HSE policy, other policies shall be developed which includes:
- Substance Abuse Policy – Prohibiting the consumption or possession of narcotics, drugs, alcohol and other banned substances
- Emergency Response Policy – Stating commitment to ensure adequate resources and arrangement are in place in the case an emergency.
- Community Affairs Policy – Stating commitment to foster healthy relationships with communities through observance of the highest standard of conduct.
- Road Safety Policy–Stating commitment to complying with Road Traffic regulations and continuously improving its road safety performance by implementing a Road Safety Management Plan (RSMP)

3.0 KEY RESPONSIBILITIES
Involvement of all in implementing, maintaining and continually improving OHS processes is the key to successful completion and achievement of quality objectives set by the management. All project personnel shall therefore be required to be familiar with the content of this OHS plan and shall participate in implementing, maintaining and improving the management system.
It is the responsibility of the project manager and all key personnel to ensure that the requirements for quality are fulfilled for works under their responsibility.
All new staff and staff who are given new responsibilities are to be inducted into the requirements set out in this plan in general and into their function and responsibilities in particular.

3.1 Project Manager Responsibilities
- Set good example in HSE issues.
- Ensure the availability of resources essential to establish, implement, maintain and improve the OHS Management System.
- Define, document and communicate roles, allocate responsibilities and accountabilities, delegating authorities, to facilitate effective OHS management.
- Ensure that all of the activities undertaken in the Project conform to Nigerian legislation, client requirements or international standards when applicable.
- Review objectives achievements throughout the year.

3.2 Project Supervisors Responsibilities
- Enforcing all phases of the established HSE plan.
- Set good example in HSE issues.
- Preparing Job Hazard Analysis when required.
- Ensuring the safety of all workers associated with the site.
- Conducting HSE inspections.
- Ensuring workers are competent for their allocated tasks.

- Attending and participating in HSE meetings.
- Participating in accident investigations.

3.3 HSE Manager/Supervisor Responsibilities

- Prepare relevant OHS documentation and procedures.
- Monitor the efficient implementation of OHS requirements.
- Participate and organize the OHS risk assessments.
- Advise management of compliance and of conditions requiring attention.
- Conduct regular HSE inspections.
- Make thorough analysis of statistical data and inspections; delineates problem areas; and makes recommendation for solutions.
- Take part in the review of all OHS incidents and assist in investigating incident.
- Monitor the efficient implementation of the Project's OHS requirements.
- Organize the Project's OHS risk assessment exercises.
- Check on the use of all types of personal protective equipment specifies the use of appropriate PPE for the various work activities. Evaluates their effectiveness and suggests improvements where indicated.

3.4 HSE Advisor Responsibilities

- Check on the use of all types of personal protective equipment specifies the use of appropriate PPE for the various work activities. Evaluates their effectiveness and suggests improvements.
- Conduct independent inspections to observe conformance with established OHS Plan and determines the effectiveness of individual elements of the plan (pre-task briefing, weekly toolbox talk, etc)
- Establish contact with Subcontractors with the objective of maintaining good relations and coordination of accident prevention activities and compliance with the established OHS plan.
- Correct unsafe acts and unsafe conditions.
- Deliver HSE induction/orientation course to all employees, including subcontractors.
- Deliver HSE awareness course and toolbox talk.
- Advise employees on OHS matters.

3.5 All employees Responsibilities

- Take all reasonable and practical steps to care for their own health and safety and avoid affecting the health and safety of co-workers and the general public.
- Follow all instructions and use the equipment properly
- Not interfere with any safety arrangements.
- Report any circumstances which may not comply with the project's OHS management system.

4.0 Competency

All personnel required to operate or work with any equipment or machine must be competent, be tested for each equipment that he/she shall be operating. All personnel who as part of their profession require licensing or certification must obtain the necessary certification before he/she shall be allowed to work on the site.

5.0 Fitness

All personnel working on site shall be required to be certified medically fit to do so by an approved medical facility or Medical Doctor (pre-employment medical examination)

6.0 HSE Training

6.1 Induction/Orientation

Every new or rehired employee and Subcontractors employees must undergo mandatory OHS orientation / induction. The purpose of the Induction is to educate workers and make them aware of the major potential hazards he or she shall come into contact with while working on the site; also, it is one more opportunity to stress the importance of HSE being the first priority in the operations.

The content of the HSE orientation / induction shall cover the following subjects:

- Site safety rules.
- Personnel protective equipment requirements (PPE).
- Environmental sensitivity and protection.
- Preparation and planning of the job (Daily Pre-task talk).
- Emergency plan and muster points.

6.2 Project Specific HSE Training

In addition to the HSE orientation /induction, there shall be specific site HSE trainings which shall cover the following topics:

- Manual handling.
- Electrical Safety
- Emergency Prevention, Preparedness and Response
- Work at height training
- First Aid training (for site First Aiders)
- Lifting and Rigging
- Safe Driving techniques (for drivers)

7.0 Hazard identification & HSE risk assessment

7.1 Project HSE Risk Assessment

The project HSE risk assessment shall be developed and recorded. The Project's HSE risk assessment shall be conducted by a team consisting of HSE Manager/ Supervisor and technical managers/supervisors. It must be approved by the Project manager.

7.2 Fire Risk Assessment

A fire risk assessment shall be developed and recorded. A fire safety plan shall be in place in the site.

7.3 Job Hazard Analysis

Job hazard analysis is required when the hazards and risks associated with a specific task is to be identified so as to implement control measures. The HSE department together with the technical managers/supervisors shall develop a job hazard analysis when applicable.

8.0 EMERGENCY PREPAREDNESS AND RESPONSE

Emergency procedures and evacuation plan shall be developed by the HSE Department and displayed on the notice board. These procedures shall be communicated to all staff. Also each section/department shall have at least a trained first aider at all times.

9.0 HSE IMPLEMENTATION AND PERFORMANCE MONITORING

9.1 HSE Meetings

HSE management meetings shall be held once a month. The meeting is to help identify safety problems, develop solutions, review incident reports, provide training and evaluate the effectiveness of our safety program. Some of the meetings shall be:

- Project/Site Management HSE Meeting for management and supervision (Monthly).
- Tool box talk meetings for all workforce (Weekly).
- Pre-task briefing for all workforces (Daily).
- Special situation meeting (As required).

9.2 HSE Reporting

All incidents and illnesses must be reported to site supervisor after which investigation shall commence and recorded so that appropriate corrective actions shall be implemented to prevent any re-occurrence and report findings shall be forwarded to management for review. Reporting requirements shall include notification of incident, investigation report, and monthly report. Notification of Incident form shall be developed which shall be filled and submitted to HSE department for investigation.

9.3 HSE Inspection and Audits

For continual improvement of HSE management system, HSE inspection and audit shall be conducted. An inspection checklist shall be developed. This is to ensure that the HSE management system is being adhered to. The inspection shall be conducted by the HSE department together with site management.

9.4 Corrective and Preventive Actions and Non Conformities

During the cause of inspections, concerns raised shall be addressed and closed out. It is expected that in a period of two weeks, a close out inspection shall take place to verify that the corrective actions have been closed.

10.0 Project HSE Rules

The project HSE rules shall be developed and supervision shall develop specific rules and procedures when necessary.
The following site rules shall be implemented at all times. The Site Manager shall draw these rules to the attention of their own workmen or staff. All sub-contractors must ensure that these rules are drawn to the attention of their workmen and staff.
The Principal Contractor may implement additional site rules during the contract programme. Any such additional rules shall be notified to all personnel engaged on the project prior to their implementation. The HSE rules shall include but not limited to:

1. Personal Protective Equipment must be worn at all times.
2. All instructions issued by the Site Manager regarding the storage, handling or cleaning of materials, plant and equipment must be followed.
3. All vehicles must be parked in the designated areas.
4. Any workman suffering from a medical condition that might affect his work and/or that could require specific Medical treatment must inform the supervisor before commencing work.
5. All site tools shall either be battery operated or 110 volts.

6. No one shall be permitted on site if it is believed that they are under the influence of alcohol or drugs.
7. Vehicles must not reverse without a banksman in attendance.
8. All visitors to site must undergo a site-specific induction and operative Identity badges must be worn at all times.
9. All excavations must be secured.
10. Smoking and eating shall only be permitted in the designated area. This area shall be identified during induction.
11. No hot works operations are permitted without a hot work permit in place.
12. There shall be no radios or other music playing devices on site.
13. Good housekeeping practices to be adopted**.**
14. Compliance with all Ethical Power Permit to Work systems
15. The site keyed access procedure must be strictly adhered to.
16. All Contractors must comply with Site Health & Safety Guidelines / Site Safety Method Statement
17. No untrained worker shall be permitted to operate heavy machineries.

11.0 SAFE WORK PRACTICES

Implementing safe work practices is one of the keys to achieving our HSE objectives and some of these safe work practices include:

11.1 Personal Protective Equipment (PPE)

The basic PPE required for the project shall be Safety Glasses, Safety Boots, Hand Gloves, Hard Hat and Coverall. Any other PPE shall be used as applicable. Management is responsible for the provision of PPE and usage shall be enforced at all time.
PPE shall be provided in circumstances where exposure to hazards cannot be avoided by other means or to supplement existing control measures identified by a risk assessment. An assessment shall be made to ensure that the PPE is suitable for purpose and is appropriate to the risk involved.

Information, instruction & training shall be given to all employees on safe use, maintenance and storage of PPE.
Employees shall, in accordance with instructions given, make full use of all PPE provided and maintain it in a serviceable condition and report its loss or defect immediately to the maintenance department where it shall be replaced.
PPE shall be replaced when it is no longer serviceable and returned on a new for old basis. Employees shall sign to state that they have received PPE when issued.

12.0 WELFARE FACILITIES

The provision of welfare facilities on the site shall be communicated to all operatives at site induction.
A cleaning regime shall be implemented and maintained for the duration of the construction phase to ensure the site welfare facilities remain in a clean and tidy condition.
If mains drinking water becomes unavailable during the construction phase bottled water shall be brought to site for all operatives for the necessary period.

13.0 SIGNAGE

Adequate provision for warning and directional signs shall be made.

14.0 PROJECT HSE PROCEDURES

OHS procedures shall be developed. Project activities shall generally be controlled in accordance with OHS Procedures. These procedures shall include:

- Lifting and Rigging Procedure
- HSE Reporting Procedure
- Working at Height Procedure.
- Emergency Procedure.

ANNEX 5: WASTE MANAGEMENT PLAN

S/N	Potential Source	Waste Type	Waste Streams	Management
A	**PRECONSTRUCTION**			
1	Movement of vehicles on unpaved surface and engine exhaust	Emission	COx, SOx, NOx, CO, Dust	Use water suppression to prevent dust emission Maintain vehicles and machineries to reduce emission Maintain low speed to reduce dust and gaseous emission Allow aerial dispersal over a large area.
2	Site Clearing and Installation of temporary workers camp and offices and workshops	Non-Hazardous	• Vegetal Waste • Industrial Waste: Metal scraps, packaging waste	Vegetal waste shall be supplied to farmers for use as compost. Woody vegetal shall be supplied to host communities for domestic uses including as fuel wood for cooking. Segregated and stored on site to be collected at least once a week for reuse or recycle through licensed third party facilities.
3	Workers' camp	Domestic and Sanitary	• Food remnant, kitchen wastes. Food packaging etc • Domestic Sewage	To be transferred to locals for use as compost and animal feed. Plastic and other packaging to be recycled through licensed recycling third parties. Temporary stored and transferred to licensed carrier for disposal
B	**CONSTRUCTION**			
1	Movement of vehicles on unpaved surface and engine exhaust	Emission	COx, SOx, NOx, CO, Dust	See A1
2	Civil works Workers' camp/offices	Non-Hazardous /Industrial	• Spoils • Waste Packaging and Dunnage such as scrap wood, scrap metal, steel, glass, plastic, paper and cardboard, empty metal containers**,** excess concrete, broken equipment, or components • Domestic-type waste: wastepaper and food scraps, metal cans	Reuse spoils as fill materials as much as possible Segregated and kept securely in closed containers on site. To be transferred to approved recycling third parties for reuse/recycling. Non-recyclables to be removed by approved waste contractor for onward disposal at approved sites. To be transferred to locals for use as compost and animal feed. Plastic and other packaging to be recycled through licensed recycling third parties.
3	Civil Works	Hazardous Waste	**Solid Wastes:** used batteries, chemical containers, concrete etc **Liquid Waste:** spent lubricating oils, hydraulic fluids, brake fluids, battery electrolyte, and dielectric fluids, chemical cleaning agents, paints, primers, thinners, and corrosion control coatings; sealants and adhesives etc	Store on site in closed containers with secondary containment and transferred to a registered waste contractor with off-site permitted hazardous waste treatment, storage, or disposal facilities
	Civil works	Waste Water	Waste water from equipment washing and concrete production	Discharged to the ground as only very small quantity is envisaged at this stage.
4	Workers' camp	Domestic and Sanitary	• Food remnant, kitchen wastes. Food packaging etc • Domestic Sewage	See A3
C	**OPERATION**			
1	Movement of vehicles	Emission	COx, SOx, NOx, CO, Dust	See A1
2	Maintenance of bridge and other infrastructures Workers' camp/offices	Non-Hazardous /Industrial	• Packaging waste, scrap metals, plastic, paper and cardboard, empty metal containers**,** broken equipment, or components • Domestic-type waste: wastepaper and food scraps, metal cans	Segregated and kept securely in closed containers on site. To be transferred to approved recycling third parties for reuse/recycling. Non-recyclables to be removed by approved waste contractor for onward disposal at approved sites. To be transferred to locals for use as compost and animal feed. Plastic and other packaging to be recycled through licensed recycling third parties.
3	Maintenance of bridge and other infrastructures	Hazardous	Same as B3 but smaller quantity may be expected.	See B3

ANNEX 6: GRIEVANCE REDRESS MECHANISM

For IUFMP, grievance is recognized as the formal legal mechanisms for resolving complaints and dissatisfactions. Grievance mechanisms are designed with the objective of solving disputes at the earliest possible time in the interest of all parties concerned;

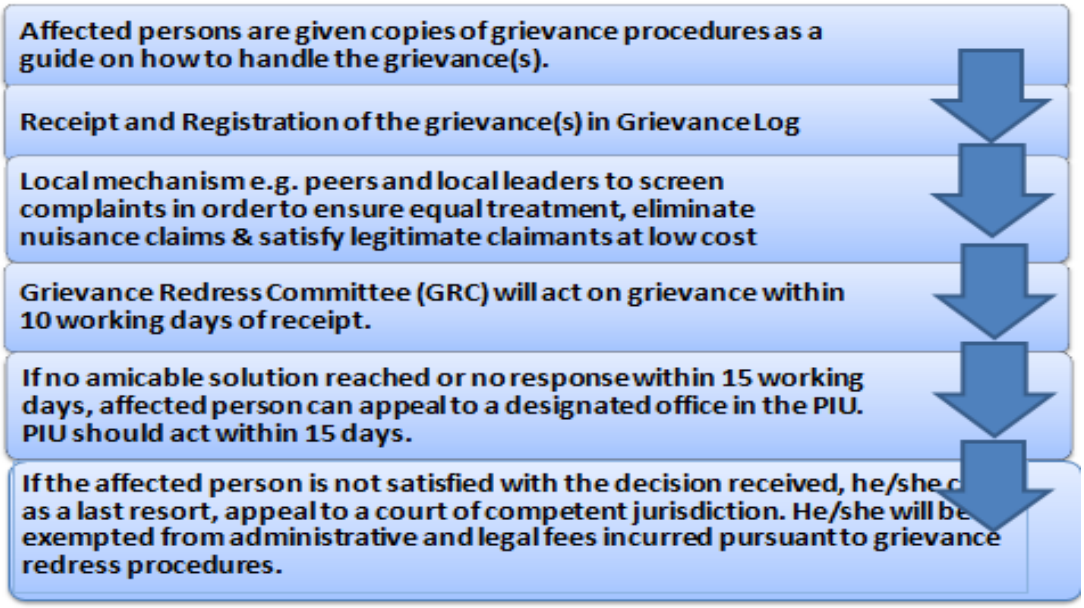
Under the PIU, there is an already established Safeguard Unit. This unit will work with a committee comprising administrative heads of local governments, community and/or village chiefs, NGOs/CBOs and other relevant Government organs that will be set up to address complaints. For this reason, handling grievances will begin with the Local Government. A grievance log will be established by the project and copies of the records kept with all the relevant authorities.

The existence, location, purpose and composition of this forum will be publicized, so that complainants are knowledgeable about the availability of this forum for resolving any grievance. If a grievance cannot be resolved in these informal venues, the complainant may take recourse to the administrative and legal systems for satisfaction.

Expectations when Grievances Arise

When local people present a grievance, they generally expect to receive one or more of the following: acknowledgement of their problem, an honest response to questions/issues brought forward, an apology, adequate compensation, modification of the conduct that caused the grievance and some other fair remedies. In voicing their concerns, they also expect to be heard and taken seriously. The company, contractors, or government officials must therefore convince people that they can voice grievances and work to resolve them without retaliation.

To address these challenges, IUFMP shall take the lead and work with their host communities to fund non-judicial, dialogue-based approaches for preventing and addressing community grievances. The overall process of grievance is redress will be as follows:



Composition of Grievance Redress Committee (GRC) under this Project

A functional GRC shall be constituted by IUFMP in collaboration with Egbeda LGA and the local communities. The composition of the committee will include the following:

- A representative of the PIU
- The Social Development Specialist
- A representative of traditional ruler or the local chief representing them in the traditional ruling council or the community head of affected communities.
- Two (2) representatives from affected communities.
- A representative each from CDAs and CDCs.
- A representative of OYSMEWR.
- A representative of the contractor, if applicable

Grievance Log

The designated officer assigned as the Project Liaison Officer by the GRC will ensure that each complaint has an individual reference number and is appropriately tracked and recorded actions are completed. The log should contain a record of the person responsible for an individual complaint, and records dates for the following events:

- Date the complaint was reported.
- Date the Grievance Log was uploaded onto the project database.
- Date information on proposed corrective action sent to complainant (if appropriate).
- The date the complaint was closed out.
- Date response was sent to complainant.

Monitoring Complaints

The Project Liaison Officer will be responsible for providing the sub-project Grievance Redress Committee (GRC) with a periodic report detailing the nature, number and status of complaints any outstanding issues to be addressed tri-monthly reports, including analysis of the type of complaints, levels of complaints, actions to reduce complaints and initiator of such action.

ANNEX 7: ENVIRONMENTAL AND SOCIAL SAFEGUARD PERFORMANCE MONITORING CHECKLIST

This form is designed for site inspection use and may not be exhaustive. Modifications and additions may be necessary to suit current/emerging situations on-site to address specific environmental issues and associated mitigation measures.

Project: .....
Site Location: .....
Construction Stage: Pre-Construction ☐ Construction ☐ Operation ☐
Activities: .....
Inspection Date: .....Inspection Time: .....
Inspected by: .....

Inspection Parameter		Implemented?			Rating (if yes)				Remarks: (specify location, good practices, problem observed, possible cause of non-conformity and/or proposed corrective /preventative actions)
		Yes	No	N/A	1	2	3	4	
1.	**Air Pollution Control**								
1.1.	Are the construction sites watered to minimize dust generated?								
1.2.	Are all vehicles carrying dusty loads to and from site covered?								
1.3.	Are vehicles, plant and equipment well maintained? (any black smoke observed, please indicate the plant/equipment and location)								
1.4.	Are drivers/ workers trained on proper operation of vehicles and equipment especially on fuel efficiency and anti-idling techniques?								
1.5.	Are speed control measures applied to reduce dust generation on unpaved surfaces? (e.g. speed limit sign)								
1.6.	Others (please specify)								
2.	**Water and Soil Pollution Control**								
2.1.	Is any water quality parameter (Mn, Fe, Cu, Zn, Cd, Pb, **PO_4^3**, **NO_3^-**, **SO_4^{2-}**, **TDS, TSS, BOD, DO**) above baseline level?								
2.2.	Is any soil quality parameter (pH, Ca, Mg, K, Na, Mn, Fe, Cu, Zn, P) above baseline level?								
2.3.	Is off-site storm and flood water controlled before it reaches areas being excavated to prevent run-off of sediment?								
2.4.	Are measures provided to prevent run-off of sediments to surface water? (e.g. silt fences)								
2.5.	Are sedimentation traps free of silt and sediment?								
2.6.	Are there measures to ensure fuel storage tanks are leak proof and installed with a bund?								
2.7.	Others (please specify)								
3.	**Noise Control**								
3.1.	Does construction noise exceed 90dB(A)								
3.2.	Does any haulage and noise generating activity take place outside working hours?								
3.3.	Are idle vehicles/equipment turned off or throttled down?								
3.4.	Are hearing protection devices used (ear plugs/muffs)?								
3.5.	Any noise mitigation measures adopted (e.g. mufflers on engine exhausts, use of noise barrier etc)?								

Inspection Parameter		Implemented?			Rating (if yes)				Remarks: (specify location, good practices, problem observed, possible cause of non-conformity and/or proposed corrective /preventative actions)
		Yes	No	N/A	1	2	3	4	
3.6.	Are silenced equipments utilized?								
3.7.	Others (please specify)								
4.	**Waste Management**								
4.1.	Is there a site specific waste management plan being implemented?								
4.2.	Are excavated materials reused as fill materials?								
4.3.	Is the site kept clean and tidy? (e.g. litter free, good housekeeping)								
4.4.	Are stockpile & disposal area stable and protected against erosion?								
4.5.	Are separated labelled containers / areas provided for facilitating recycling and waste segregation?								
4.6.	Are construction wastes / recyclable wastes and general refuse removed off site regularly?								
4.7.	Are construction wastes collected and disposed of properly by licensed collectors?								
4.8.	Are chemical wastes, if any, collected and disposed of properly by licensed collectors?								
4.9.	Are oil drums and plants/equipments provided with drip trays/ bunds?								
4.10.	Are drip trays/ bunds free of oil and water?								
4.11.	Is there any oil spillage? Clean-up the contaminated soil immediately?								
4.12.	Others (please specify)								
5.	**Storage of Oils, Chemicals and Hazardous Materials**								
5.1.	Are oils/chemicals/ hazardous materials securely stored and labelled properly?								
5.2.	Is there any spillage or contamination observed on site?								
5.3.	Are there proper measures to control oil/ chemical spillage? (e.g. provide bunds)								
5.4.	Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?								
5.5.	Others (please specify)								
6.	**Protection of Flora, Fauna and Historical Heritage**								
6.1.	Are disturbance to terrestrial flora minimized/ limited to area of need?								
6.2.	Are disturbance to terrestrial fauna minimized/ limited to area of need?								
6.3.	Any historical heritage exists on site? If yes, is appropriate measures taken to preserve it?								
6.4.	Others (please specify)								
7.	**Protection of Public Utility/ Community Infrastructure**								
7.1.	Is there any damage to underground public utility cables/pipes?								
7.2.	Is there any disruption to public utility services?								
7.3.	In case of disruption, was service swiftly restored?								
7.4.	Are all basic amenities provided in workers' camp to prevent dependencies on community infrastructure?								

Inspection Parameter	Implemented?			Rating (if yes)				Remarks: (specify location, good practices, problem observed, possible cause of non-conformity and/or proposed corrective /preventative actions)
	Yes	No	N/A	1	2	3	4	
7.5. Are grievances/ complaints received and documented?								
7.6. Are aggrieved parties adequately carried along in the Grievance Redress process?								
7.7. Others (please specify)								
8. **Protection of Community Culture, Safety and Security**								
8.1. Does workers' Code of Conduct meet the requirements of ESMP and best practice?								
8.2. Does the Code of Conduct prohibit violence against women, exploitation, prostitution, use of illegal drugs etc?								
8.3. Does the Code of Conduct highlights penalties and punishments for offences								
8.4. Rate the level of awareness of workers to local cultures, traditions and lifestyles								
8.5. Is there any underage worker on site?								
8.6. Are there local workers on site? What is the percentage of local workforce to the total workforce?								
8.7. Are there competent security personnel on site?								
8.8. Others (please specify)								
9. **Protection of Community Health**								
9.1. Is there any HIV prevention program implemented (peer education, condom distribution etc)?								
9.2. Is there any health awareness and education initiatives on STDs amongst workers and in nearby communities?								
9.3. Are the drivers trained on defensive driving techniques, haulage & pedestrian safety?								
9.4. Are there speed control devises on vehicles?								
9.5. Are there traffic signs on the roads?								
10. **Protection of Workers' Health**								
10.1. Is there a site specific Occupational Health and Safety (OHS) plan being implemented?								
10.2. Does the OHS Plan meet the requirements of ESMP and best practice?								
10.3. Is there a trained First Aider and First Aid box on site?								
10.4. Are the right Personal Protective Equipment (PPE) being used by workers?								
10.5. Are workers observing basic safe working practices?								
10.6. Are there illicit drugs or alcohol on site?								
10.7. Others (please specify)								
11. **Emergency Preparedness and Response**								
11.1. Are there emergency contingency plan in place for accident, fire, spillage?								
11.2. Are accidents and incidents reported and reviewed, and corrective & preventive actions identified and recorded?								
11.3. Others (please specify)								

Key	Rating	Definition
N/A	-	Not Applicable
1	Unsatisfactory	Performance consistently fails to meet the minimum requirements or expectation.
2	Moderately Satisfactory	Performance meets some but not all of the requirements or expectation.
3	Satisfactory	Performance is consistent with requirements or expectation.
4	Highly Satisfactory	Performance is consistent and frequently exceeds requirements or expectation.

ANNEX 8: GENERAL ENVIRONMENTAL MANAGEMENT CONDITIONS FOR CONSTRUCTION CONTRACTS

General

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) or Environmental and Social Management Plan (ESMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved EMP after written instruction by the Supervising Engineer (SE) to fulfil his obligation within the requested time, the Owner reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.

2. Notwithstanding the Contractor's obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an EMP. In general these measures shall include but not be limited to:

(a) Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity dust producing activities.

(b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.

(c) Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.

(d) Prevent bitumen, oils, lubricants and waste water used or produced during the execution of works from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs, and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.

(e) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards.

(f) Upon discovery of ancient heritage, relics or anything that might or believed to be of archaeological or historical importance during the execution of works, immediately report such findings to the SE so that the appropriate authorities may be expeditiously contacted for fulfilment of the measures aimed at protecting such historical or archaeological resources.

(g) Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.

(h) Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.(i) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.

(j) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.

(k) Ensure public safety, and meet traffic safety requirements for the operation of work to avoid accidents.

3. The Contractor shall indicate the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed.

4. The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan / strategy to ensure effective feedback of monitoring information to project management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions.

5. Besides the regular inspection of the sites by the SE for adherence to the contract conditions and specifications, the Owner may appoint an Inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State environmental authorities may carry out similar inspection duties. In all cases, as directed by the SE, the Contractor shall comply with directives from such inspectors to implement measures required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

Worksite/Campsite Waste Management

6. All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals shall be bunded in order to contain spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed off at designated disposal sites in line with applicable government waste management regulations.

7. All drainage and effluent from storage areas, workshops and camp sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.

8. Used oil from maintenance shall be collected and disposed off appropriately at designated sites or be re-used or sold for re-use locally.

9. Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures such as banks, drains, dams, etc. to reduce the potential of soil erosion and water pollution.

10. Construction waste shall not be left in stockpiles along the road, but removed and reused or disposed of on a daily basis.

11. If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the SE, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, spoil materials should be placed in low-lying areas and should be compacted and planted with species indigenous to the locality.

Material Excavation and Deposit

12. The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas.

13. The location of quarries and borrow areas shall be subject to approval by relevant local and national authorities, including traditional authorities if the land on which the quarry or borrow areas fall in traditional land.

14. New extraction sites:

a) Shall not be located in the vicinity of settlement areas, cultural sites, wetlands or any other valued ecosystem component, or on on high or steep ground or in areas of high scenic value, and shall not be located less than 1km from such areas.

b) Shall not be located adjacent to stream channels wherever possible to avoid siltation of river channels. Where they are located near water sources, borrow pits and perimeter drains shall surround quarry sites.

c) Shall not be located in archaeological areas. Excavations in the vicinity of such areas shall proceed with great care and shall be done in the presence of government authorities having a mandate for their protection.

d) Shall not be located in forest reserves. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.

e) Shall be easily rehabilitated. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.
f) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing.
15. Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.
16. Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.
17. The Contractor shall deposit any excess material in accordance with the principles of the general conditions, and any applicable EMP, in areas approved by local authorities and/or the SE.
18. Areas for depositing hazardous materials such as contaminated liquid & solid materials shall be approved by the SE & appropriate local &/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

Rehabilitation and Soil Erosion Prevention
19. To the extent practicable, Contractor shall rehabilitate the site progressively so the rate of rehabilitation is similar to the rate of construction.
20. Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.
21. Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.
22. Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.
23. Locate stockpiles where they will not be disturbed by future construction activities.
24. To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.
25. Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
26. Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.
27. Ensure reshaped land is formed so as to be inherently stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.
28. Minimize the long-term visual impact by creating landforms that are compatible with the adjacent landscape.
29. Minimize erosion by wind and water both during and after the process of reinstatement.
30. Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.
31. Revegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people.

Water Resources Management
32. The Contractor shall at all costs avoid conflicting with water demands of local communities.
33. Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.
34. Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.
35. Temporary damming of streams and rivers shall be done in such a way avoids disrupting water supplies to communities down stream, and maintains the ecological balance of the river system.
36. No construction water containing spoils or site effluent, esp. cement and oil, shall be allowed to flow into natural water drainage courses.
37. Wash water from washing out of equipment shall not be discharged into water courses or road drains.
38. Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

Traffic Management
39. Location of access roads/detours shall be done in consultation with the local community especially in important or sensitive environments. Access roads shall not traverse wetland areas.
40. Upon the completion of civil works, all access roads shall be ripped and rehabilitated.
41. Access roads shall be sprinkled with water at least 5 times a day in settled areas, & 3 times in unsettled areas, to suppress dust emissions.

Blasting
42. Blasting activities shall not take place less than 2km from settlement areas, cultural sites, or wetlands without the permission of the SE.
43. Blasting activities shall be done during working hours, and local communities shall be consulted on the proposed blasting times.
44. Noise levels reaching the communities from blasting activities shall not exceed 90 decibels.

Disposal of Unusable Elements
45. Unusable materials and construction elements such as electro-mechanical equipment, pipes, accessories and demolished structures will be disposed of in a manner approved by the SE. The Contractor has to agree with the SE which elements are to be surrendered to the Client's premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.
46. As far as possible, abandoned pipelines shall remain in place. Where for any reason no alternative alignment for the new pipeline is possible, the old pipes shall be safely removed and stored at a safe place to be agreed upon with the SE and the local authorities concerned.
47. AC-pipes as well as broken parts thereof have to be treated as hazardous material and disposed of as specified above.
48. Unsuitable and demolished elements shall be dismantled to a size fitting on ordinary trucks for transport.

Health and Safety
49. In advance of the construction work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of AIDS.
50. Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.
51. Construction vehicles shall not exceed maximum speed limit of 40km per hour.

Repair of Private Property
52. Should the Contractor, deliberately or accidentally, damage private property, he shall repair the property to the owner's satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.

53. In cases where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the SE. This compensation is in general settled under the responsibility of the Client before signing the Contract. In unforeseeable cases, the respective administrative entities of the Client will take care of compensation.

Contractor's Environment, Health and Safety Management Plan (EHS-MP)

54. Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an EMP for the works. The Contractor's EHS-MP will serve two main purposes:

- For the Contractor, for internal purposes, to ensure that all measures are in place for adequate EHS management, and as an operational manual for his staff.
- For the Client, supported where necessary by a SE, to ensure that the Contractor is fully prepared for the adequate management of the EHS aspects of the project, and as a basis for monitoring of the Contractor's EHS performance.

55. The Contractor's EHS-MP shall provide at least:

- a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP;
- a description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and
- the internal organizational, management and reporting mechanisms put in place for such.

56. The Contractor's EHS-MP will be reviewed and approved by the Client before start of the works. This review should demonstrate if the Contractor's EHS-MP covers all of the identified impacts, and has defined appropriate measures to counteract any potential impacts.

EHS Reporting

57. The Contractor shall prepare bi-weekly progress reports to the SE on compliance with these general conditions, the project EMP if any, and his own EHS-MP. An example format for a Contractor EHS report is portrayed below. It is expected that the Contractor's reports will include information on:

- EHS management actions/measures taken, including approvals sought from local or national authorities;
- Problems encountered in relation to EHS aspects (incidents, including delays, cost consequences, etc. as a result thereof);
- Lack of compliance with contract requirements on the part of the Contractor;
- Changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects; and
- Observations, concerns raised and/or decisions taken with regard to EHS management during site meetings.

58. It is advisable that reporting of significant EHS incidents be done "as soon as practicable". Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keep his own records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as appendixes to the bi-weekly reports. A sample format for an incident notification is shown below. Details of EHS performance will be reported to the Client through the SE's reports to the Client.

Training of Contractor's Personnel

59. The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP. General topics should be:

- EHS in general (working procedures); emergency procedures; and social and cultural aspects (awareness raising on social issues).

Cost of Compliance

60. It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers this cost. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable EHS impact.

3. **Example Format:** EHS **Report**

Contract: **Period of reporting:**

EHS management actions/measures:

Summarize EHS management actions/measures taken during period of reporting, including planning and management activities (e.g. risk and impact assessments), HSE training, specific design and work measures taken, etc.

EHS incidents: Report on any problems encountered in relation to EHS aspects, including its consequences (delays, costs) and corrective measures taken. Include relevant incident reports.

EHS compliance: Report on compliance with Contract HSE conditions, including any cases of non-compliance.

Changes: Report on any changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects.

Concerns and observations: Report on any observations, concerns raised and/or decisions taken with regard to EHS management during site meetings and visits.

Signature (Name, Title Date) of Contractor Representative

4. Example Format: EHS Incident Notification

EHS Incident Notification
Provide within 24 hrs to the Supervising Engineer
Originators Reference No:.....
Date of Incident:..... **Time:**.....
Location of incident:.....
Name of Person(s) involved:.....
Employing Company:.....
Type of Incident:.....
Description of Incident:
Where, when, what, how, who, operation in progress at the time (only factual)
Immediate Action:
Immediate remedial action and actions taken to prevent reoccurrence or escalation
Signature (Name, Title, Date):.....
Contractor Representative

ANNEX 9: PUBLIC CONSULTATION IN PICTURES

Cross-section of community members during public consultation forum

Official addressing stakeholders

Community members and stakeholders expressing their views and asking questions

FGD with men group

IDI with a community member

ANNEX 10: ATTENDANCE AT PUBLIC CONSULTATION

ATTENDANCE SHEET

COMMUNITY / STAKEHOLDER CONSULTATION

Date:

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
1	OLAYIWOLA MUSTAPHA . A.	ASST. SEC. OKE AYO TUNTUN COMMUNITY	ASST. SEC	08056127647	mirror_comm@yahoo.com	[illegible]
2	L.O. Jinadu (JP)	Chairman Conflict Reso. Comm.		08068783491	lojik2006@gmail.com	[illegible]
3	Alh Omofoso G.T	Treasurer, Oke Ayotuntun Comm	Treasurer	08034662556	Not in operation	[illegible]
4	Deacon Akinbo G.J.A	V/chairman, Oke Ayotuntun Comm	V/Chairman	08066356154	✓	[illegible]
5	Bro Oyejide Moses	General Secretary Oke Ayo Tuntun	General Secretary	08038413544	✓	[illegible]
6	Mrs G.O. Oyewale	Women leader	Women leader Oke Ayotuntun	07059708705	1946moji@gmail.com	[illegible]
7	Pastor YELOTAN I	SOCIAL SEC OKE AYO TUNTUN COMMUNITY	SOCIAL SECRETARY	08027875383	yelotan@gmail.com	[illegible]
8	MRS Oluwadolapo			08062663401		[illegible]

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
1	Mr. Adebayo Kolade	Landlord Association	Chairman Orogbangba	07037180667		[illegible]
2	" M. Lawal	Papa Ifesowapo	Member	07033451631		[illegible]
3	Awobona Moto	Orogbangba	Road committee Member	08038496867		[illegible]
4	Iyagi Adeleke	Atariagbon	Member	08063023180		[illegible]
5	Pastor Anemu	Papa /Ifesowapo	Chairman Papa	08053169434		[illegible]
6	Chief Rafiu Ajadi	papa Ifesowapo	Member	08069375838		[illegible]
7	Babajide Ogunyinka	papa Ifesowapo	member	08068722977		[illegible]
8	Taofeek-Sholabode	Papa Ifesowapo	member	08056070271		[illegible]

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
9	Elder ALADE OLUSOLA ABRAHAM	Chairman Unit 1 Orogbangba	Unit Chairman	08037217404	Nil	[illegible]
10	NASIR IDIAT OMOLARA		LAND LORD	08110763263	NIL	[illegible]
11	SANUSI OLAWALE	LANDLORD	Vice chairman LANDLORD	08076269608	NIL	[illegible]
12	Gbadebowale S. (SP)	Vice Chairman Unit 1 Orogbangba.	Lanlord	08068521977	NIL	[illegible]
13	Olaoye Sewuri	orogbangba	Lanlord	09081596687	NIL	[illegible]
14	Alamu Adeniran	Orogbangba	landlord	08052474438	Nil	[illegible]
15	Akinfenwa L.O	Ifelodun	Land Lord	08130515714	NIL	[illegible]
16	Elder Dayo Oyeniyi	Atariagbon	Land lord	08052081692	NIL	[illegible]

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
	Raji Olasunkanmi	Ifelodun	Chairman	08032605184		[illegible]
	Tunde Kale	Baba Ila	Landlord	08069638066		[illegible]
	Chief Abikoye	Orogbangba	Landlord	08076727148		[illegible]
	Mr Adeagbo Asemola	C/M Okada	Landlord	08071898106		[illegible]
	Pst AYINTAYO AKANDE	Ifelodun	—	08035150692		[illegible]
	APPA BUSARI ISMAIL	Atariagbon	Road project committee	08053451844		[illegible]
	PA TAIWO OBISESAN	Atariagbon	Land Lords	08062198583		[illegible]
	Osinboyejo Muritala	Orogbangba	Landlords	08030842704		
	Alhaji Anifowose	Ataniagbon	Landlord	07062875100		[illegible]

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
	AKAGBE T.O	Land Lord	Landlord	08038451890	Nil	[illegible]
	Sangolade O.R		✓	08033673172	sangoladeareal@yahoo.com sangoladeolaregbg@mail.com	[illegible]
	Ojeniyi M.O	C.P.S Oki-PATAKI	Teacher/Landlord	08054940765	sagunoge at yahoo.com	[illegible]
	Ojeniyi C.A		Trader	08107919177		[illegible]
	JOSEPH MA	PAPA	Contractor	08032262053	Abogunde	[illegible]
	MR Adebayo Abdul	Land Lord	M Personnel	08033950151		[illegible]
	Alhaji Ade-Oewo	Land lord	Atori-afogan	07033888020		[illegible]
	chief E.O Olatunji	—	Ifelodun.	08023283059		Olatunji

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
	Pst Bayo Akinwale	Oke Ayotuntun	Zonal Chairman	08073512058		[illegible]
	Mr. Oladimeji Ade.	Oke Ayotuntun	member	08059654918		Ade
	Pst Akingbade	Oke Ayotuntun	Member	08070535993		[illegible]
	Ganiyu Majamu	Oke Ayotitun	Member	07014672740		[illegible]
	Ogunleke Olubayo	Youth Forum	President	08169006959	follytexlessn@yahoo.com	[illegible]
	Adebanuji Pelumi	Youth Forum	Stakeholder Chairman	08071302441		11-1-2017 [illegible]
	R. I. Olalekan	N.U.R.T.W OKADA RIDDER.	Former Task Force	08062637508.		[illegible]
	Com. Ademola Adeagbo	N.U.R.T.W Okada Chairman	CHAIRMAN.	08073722955.		ADO

Date:

S/n	NAME	ORGANIZATION/ASSOCIATION	DESIGNATION	PHONE	EMAIL	SIGNATURE
	BELLO	OROGBANGBA	LAND LORD	081767698		[illegible]
	AFOLABI HUSSAIN	✓	✓	08039551470		[illegible]
	ROBINSON AKHERO	✓	LAND LORD	08034820844		[illegible]
	Mr. Adewale F.	✓	✓	08168408041		[illegible]