

# ENVIRONMENTAL ASSESSMENT EXECUTIVE SUMMARY AND UPDATE

## Environmental Management Plan - Chad Portion

### VOLUME 1

- Base Document
- Management Plan for Cultural Properties
- Handbook for Site-Specific Environmental Mitigation Actions
- Environmental Monitoring Plan

### VOLUME 2

- Biophysical/Socioeconomic/Health Technical Requirements and Specifications

### VOLUME 3

- Compensation & Resettlement Plan

### VOLUME 4

- Regional Development Plan: Near Term Measures
- Revenue Management Plan
- Institutional Capacity Building

### VOLUME 5

- Waste Management Plan

### VOLUME 6

- Environmental Line List
- Environmental Alignment Sheets

## Supporting Documents

### VOLUME 1

- Project Description
- Decommissioning
- List of Studies/Reports
- List of Consultants/Experts

### VOLUME 2

- Alternatives Analysis

### VOLUME 3

- Consultation and Public Review Program

### VOLUME 4

- Oil Spill Response: Preliminary Approach

### VOLUME 5

- Chad Biological Studies
- Cameroon Biological Studies

### VOLUME 6

- Chad Public Health
- Cameroon Public Health

## Environmental Management Plan - Cameroon Portion

### VOLUME 1

- Base Document
- Induced Access Management Plan
- Management Plan for Cultural Properties
- Handbook for Site-Specific Environmental Mitigation Actions
- Environmental Monitoring Plan

### VOLUME 2

- Biophysical/Socioeconomic/Health Technical Requirements and Specifications

### VOLUME 3

- Compensation Plan

### VOLUME 4

- Environmental Foundation Plan
- Offsite Environmental Enhancement Program
- Indigenous Peoples Plan

### VOLUME 5

- Waste Management Plan

### VOLUME 6

- Environmental Line List
- Environmental Alignment Sheets

## REFERENCE DOCUMENTS

**ONLY THE OVERVIEW IS AVAILABLE IN  
FRENCH AND ENGLISH**

**ENVIRONMENTAL MANAGEMENT PLAN  
CHAD PORTION**

**VOLUME 6**

**ENVIRONMENTAL LINE LIST  
ENVIRONMENTAL ALIGNMENT  
SHEETS**

**May 1999**

## ENVIRONMENTAL LINE LIST ENVIRONMENTAL ALIGNMENT SHEETS

Environmental mapping at a 1:200,000 scale based primarily on terrain maps, satellite imagery, and associated environmental assessment field studies was used in the process to define the path of the TOTCO Transportation System's pipeline and the locations of the oil field area facilities. This level of mapping was sufficient for initial engineering and planning purposes.

Data gathered *via* recent biological resource surveys (e.g., botanical studies, fisheries studies, and studies of birds and mammals) and the recently-completed Transportation System Centerline Survey have allowed for a more thorough understanding of the biological features along the TOTCO Transportation System's pipeline easement and in the oil field development area. After being mapped, these data were superimposed on analyzed and interpreted 1:10,000 to 1:50,000 scale aerial and satellite images that were acquired by the Project to produce 26 Environmental Alignment Sheets (EASs) for the easement of the TOTCO Transportation System and 12 Environmental Alignment Sheets for the oil field development area. In addition to allowing for a site-specific depiction of important biological resource information, these Environmental Alignment Sheets also function as a tool for highlighting the locations along the TOTCO Transportation System and in the oil field development area where site-specific environmental management requirements are to be implemented prior to, during, and/or after construction of the pipeline and the oil field area facilities. The categories of biological resources and environmental management requirements appearing in the Project's Environmental Alignment Sheets are:

- Vegetation/Land use classifications;
- Vegetation and wildlife resources;
- Vegetation and wildlife protection measures;
- Monitoring and surveys;
- Fisheries protection measures;
- Erosion and sediment control measures; and
- Soil handling and special area reclamation measures.

The environmental management requirements appearing in the Project's Environmental Alignment Sheets have been designed to reduce construction- and operations-related impacts to acceptable levels and are consistent with this EMP, most notably the Project's Biophysical/Socioeconomic/Health Requirements and Specifications (see Volume 2 of this EMP).

Locations of sensitive biological resources and habitats as well as the Project's site-specific environmental management requirements are represented on the Environmental Alignment Sheets by codes (for example, WPM-1 is the code for an Environmental Awareness/Education Program in sensitive habitats). A complete listing of the codes for the biological resources and environmental management requirements that appear in the Project's Environmental Alignment Sheets can be found in the Handbook that constitutes Appendix D of Volume 1 of this EMP.

The biological resource and environmental management requirement codes appearing in each Environmental Alignment Sheet's legend are summarized in tabular format by pipeline kilometer (km) post for the pipeline and grid block for the oil field area facilities in an accompanying document referred to as the Environmental Line List. Construction personnel will, therefore, be able to determine environmental management requirements at any point along the TOTCO Transportation System's easement or in the oil field development area by referring to the appropriate Environmental Alignment Sheet and/or the Environmental Line List.

The Project's Environmental Line List and Environmental Alignment Sheets will be updated and expanded to include site-specific erosion and sediment control measures once detailed construction planning is completed. New information and processes also may result in changes to existing environmental management requirements and/or the definition of new ones, therefore, further revisions to the Environmental Alignment Sheets, the Environmental Line List, and their associated Handbook may be necessary.

The Project's Environmental Line List and Environmental Alignment Sheets constitute Volume 6 of this EMP. Please note that the Environmental Line List and the Environmental Alignment Sheets will not be translated into French. The Environmental Alignment Sheets are bound separately and due to their size and number will not be distributed as part of the overall environmental documentation package for the Chad Export Project.

**ENVIRONMENTAL  
LINE  
LIST**

**OIL FIELD DEVELOPMENT AREA**

**VEGETATION AND  
WILDLIFE RESOURCES**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Vegetation and Wildlife Resources

EAS Sheet #	EAS Code	From Grid Pt	To Grid Pt	Distance (km)	Specific Information	Remarks
A1	WR-2/M-G	662.30	662.60	0.3		Seasonally inundated grassland
A1	WR-2/M-G	663.12	663.77	0.65		Seasonally inundated grassland
A1	WR-2/M-G	664.05	664.73	0.68		Seasonally inundated grassland
A1	WR-2/M-G	665.08	665.54	0.46	Seasonally inundated grassland	
A2	WR-2/W1, M-G	681.06	690.00	8.94	Nya River, streamside woodland, wildlife corridor, seasonally inundated grassland	
A2	WR-3/W1, M-G	681.06	690.00	8.94	Fishery resource	
A3	WR-2/W1,M-G	701.25	702.28	1.03	Streamside woodland, seasonally inundated grassland	
A3	WR-2/W1,M-G,R	690.00	697.51	7.51	Nya River, streamside woodland, seasonally inundated grassland, gallery forest, wildlife corridor	
A3	WR-3/W1	701.25	702.28	1.03	Fishery resource	
A3	WR-3/W1,R	690.00	697.51	7.51	Fishery resource	
B1	WR-2/M-G	662.32	662.58	0.26	Seasonally inundated grassland	
B2	WR-2/W1	688.30	688.53	0.23	Streamside woodland, wildlife corridor	
B2	WR-2/W1,M-G	680.77	686.92	6.15	Nya River, streamside woodland, wildlife corridor, seasonally inundated grassland	
B2	WR-3/W1,M-G	680.77	686.92	6.15	Fishery resource	
B3	WR-2/W1	690.45	696.30	5.85	Loule River, streamside woodland, wildlife corridor	
B3	WR-2/W1	701.51	702.30	0.79	Streamside woodland, wildlife corridor	
B3	WR-3/W1	690.45	696.30	5.85	Fishery resource	
C1	WR-2/W1	670.55	672.28	1.73		Streamside woodland, wildlife corridor, rehabilitation of topography along trenchline

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
C1	WR-2/W1	672.40	673.15	0.75		Streamside woodland, wildlife corridor, rehabilitation of topography along trenchline
C1	WR-2/W1	673.27	675.11	1.84		Streamside woodland, wildlife corridor, rehabilitation of topography along trenchline
C1	WR-2/W1	675.23	676.00	0.77		Streamside woodland, wildlife corridor, rehabilitation of topography along trenchline
C2	WR-2/W1	676.00	681.21	5.21	Nya River, streamside woodland, wildlife corridor	
C2	WR-2/W1	681.97	683.80	1.83	Nya River, streamside woodland	Wildlife corridor
C2	WR-3/W1	676.00	681.21	5.21	Fishery resource	
C2	WR-3/W1	681.97	683.80	1.83	Fishery resource	
C3	WR-2/W1	693.20	696.28	3.08	Loule River, fishery resource, wildlife corridor	
C3	WR-3/W1	693.20	696.28	3.08	Fishery resource	
D1	WR-2/W1,M-G	670.18	676.00	5.82	Nya River, seasonally inundated grassland, streamside woodland, wildlife corridor	
D1	WR-3/W1, M-G	670.18	676.00	5.82	Fishery resource	
D2	WR-2/W1	682.02	682.24	0.22	Streamside woodland	
D2	WR-2/W1	683.88	690.00	6.12	Loule River, streamside woodland; wildlife corridor	
D2	WR-2/W1,M-G	676.00	676.82	0.82	Nya River, streamside woodland, seasonally inundated grassland, wildlife corridor	
D2	WR-3/W1	683.88	690.00	6.12	Fishery resource	
D3	WR-2/W1	690.00	694.27	4.27	Loule River, streamside woodland	
D3	WR-3/W1	690.00	694.27	4.27	Loule River, fishery resource	

**ENVIRONMENTAL  
LINE  
LIST**

**OIL FIELD DEVELOPMENT AREA**

**VEGETATION AND  
WILDLIFE PROTECTION MEASURES**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Vegetation and Wildlife Protection Measures

EAS Sheet #	EAS Code	From Grid Pt	To Grid Pt	Distance (km)	Specific Information	Remarks
A1	WPM-1/M-G	662.30	662.60	0.3	Environmental Awareness Program	Focus on sensitive species, seasonally inundated grassland
A1	WPM-1/M-G	663.12	663.77	0.65	Environmental Awareness Program	Focus on sensitive species, seasonally inundated grassland
A1	WPM-1/M-G	664.05	664.73	0.68	Environmental Awareness Program	Focus on sensitive species, seasonally inundated grassland
A1	WPM-1/M-G	665.08	665.54	0.46	Environmental Awareness Program	Focus on sensitive species, seasonally inundated grassland
A2	WPM-1/W1,M-G	681.06	690.00	8.94	Environmental Awareness Program	Focus on stream crossing, seasonally inundated grassland, sensitive species
A2	WPM-2/W1,M-G	681.06	690.00	8.94	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
A2	WPM-3/W1,M-G	681.06	690.00	8.94	Construction management	Focus on stream crossings, rehabilitation of topography along trenchline
A3	WPM-1/W1,M-G	701.25	702.28	1.03	Environmental Awareness Program	Focus on streams, seasonally inundated grassland, sensitive species
A3	WPM-1/W1,M-G,R	690.00	697.51	7.51	Environmental Awareness Program	Focus on stream crossing, seasonally inundated grassland, sensitive species
A3	WPM-2/W1	701.25	702.28	1.03	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
A3	WPM-2/W1,R	690.00	697.51	7.51	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
A3	WPM-3/W1,M-G	701.25	702.28	1.03	Construction management	Focus on stream crossing, seasonally inundated grassland, rehabilitate topography along trenchline

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
A3	WPM-3/W1,M-G,R	690.00	697.51	7.51	Construction management	Focus on stream crossing, seasonally inundated grassland, rehabilitate topography along trenchline
B1	WPM-1/M-G	662.32	662.58	0.26	Environmental Awareness Program	Focus on sensitive species, seasonally inundated grassland
B1	WPM-3/M-G	662.32	662.58	0.26	Construction management	Focus on rehabilitation of topography along trenchline
B2	WPM-1/W1	688.30	688.53	0.23	Environmental Awareness Program	Focus on streamside woodland, sensitive species
B2	WPM-1/W1,M-G	680.77	686.92	6.15	Environmental Awareness Program	Focus on stream crossing, seasonally inundated grassland, sensitive species
B2	WPM-2/M-G	680.77	686.92	6.15	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
B2	WPM-3/W1	688.30	688.53	0.23	Construction management	Focus on stream crossing
B2	WPM-3/W1,M-G	680.77	686.92	6.15	Construction management	Focus on stream crossings, rehabilitation of topography along trenchline
B3	WPM-1/W1	690.45	696.30	5.85	Environmental Awareness Program	Focus on stream, seasonally inundated grassland, sensitive species
B3	WPM-1/W1	701.51	702.30	0.79	Environmental Awareness Program	Focus on stream, seasonally inundated grassland, sensitive species
B3	WPM-2/W1	690.45	696.30	5.85	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
B3	WPM-3/W1	690.45	696.30	5.85	Construction management	Focus on stream crossing
C1	WPM-1/W1	670.55	672.28	1.73	Environmental Awareness Program	Focus on stream crossing, sensitive species
C1	WPM-1/W1	672.40	673.15	0.75	Environmental Awareness Program	Focus on stream crossing, sensitive species
C1	WPM-1/W1	673.27	675.11	1.84	Environmental Awareness Program	Focus on stream crossing, sensitive species

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
C1	WPM-1/W1	675.23	676.00	0.77	Environmental Awareness Program	Focus on stream crossing, sensitive species
C1	WPM-3/W1	670.55	672.28	1.73	Construction management	Focus on stream crossing, rehabilitation of topography along trenchline
C1	WPM-3/W1	672.40	673.15	0.75	Construction management	Focus on stream crossing, rehabilitation of topography along trenchline
C1	WPM-3/W1	673.27	675.11	1.84	Construction management	Focus on stream crossing, rehabilitation of topography along trenchline
C1	WPM-3/W1	675.23	676.00	0.77	Construction management	Focus on stream crossing, rehabilitation of topography along trenchline
C2	WPM-1/W1,M-G	676.00	683.80	7.8	Environmental Awareness Program	Focus on stream crossing, sensitive species
C2	WPM-2/W1,M-G	676.00	683.00	7	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
C2	WPM-3/W1,M-G	676.00	683.80	7.8	Construction management	Focus on stream crossing
C3	WPM-1/W1	693.20	696.28	3.08	Environmental Awareness Program	Focus on stream crossing, sensitive species
C3	WPM-2/W1	693.20	696.28	3.08	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
C3	WPM-3/W1	693.20	696.28	3.08	Construction management	Focus on stream crossing
D1	WPM-1/W1,M-G	670.18	676.00	5.82	Environmental Awareness Program	Focus on streams, seasonally inundated grassland, sensitive species
D1	WPM-2/W1,M-G	670.18	676.00	5.82	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
D1	WPM-3/W1,M-G	670.18	676.00	5.82	Construction management	Focus on stream crossings, rehabilitation of topography along trenchline
D2	WPM-1/W1	682.02	682.24	0.22	Environmental Awareness Program	Focus on stream crossing, sensitive species

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
D2	WPM-1/W1	683.88	690.00	6.12	Environmental Awareness Program	Focus on stream crossing, sensitive species
D2	WPM-1/W1,M-G	676.00	676.82	0.82	Environmental Awareness Program	Focus on stream crossing, seasonally inundated grassland, sensitive species
D2	WPM-2/W1	683.88	690.00	6.12	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
D2	WPM-2/W1,M-G	676.00	676.82	0.82	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
D2	WPM-3/W1	682.02	682.24	0.22	Construction management	Focus on stream crossings, rehabilitation of topography along trenchline
D2	WPM-3/W1	683.88	690.00	6.12	Construction management	Focus on stream crossing
D2	WPM-3/W1,M-G	676.00	676.82	0.82	Construction management	Focus on stream crossings, rehabilitation of topography along trenchline
D3	WPM-1/W1	690.00	694.27	4.27	Environmental Awareness Program	Focus on stream crossing, sensitive species
D3	WPM-2/W1	690.00	694.27	4.27	Reduce impacts to wildlife corridors	At stream crossings, implement 1 of 3 options in EAS handbook
D3	WPM-3/W1	690.00	694.27	4.27	Construction management	Focus on stream crossing

**ENVIRONMENTAL  
LINE  
LIST**

**OIL FIELD DEVELOPMENT AREA**

**MONITORING, SURVEYS AND  
SEASONAL RESTRICTIONS**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Monitoring, Surveys and Seasonal Restrictions

EAS Sheet #	EAS Code	From Grid Pt	To Grid Pt	Distance (km)	Specific Information	Remarks
A1	WPM-5/M-G	662.30	662.60	0.3	Construction management	Focus on sensitive species
A1	WPM-5/M-G	663.12	663.77	0.65	Construction management	Focus on sensitive species
A1	WPM-5/M-G	664.05	664.73	0.68	Construction management	Focus on sensitive species
A1	WPM-5/M-G	665.08	665.54	0.46	Construction management	Focus on sensitive species
A1	WPM-7/M-G	662.30	662.60	0.3	Post-construction monitoring	Only in areas with sensitive species
A1	WPM-7/M-G	663.12	663.77	0.65	Post-construction monitoring	Only in areas with sensitive species
A1	WPM-7/M-G	664.05	664.73	0.68	Post-construction monitoring	Only in areas with sensitive species
A1	WPM-7/M-G	665.08	665.54	0.46	Post-construction monitoring	Only in areas with sensitive species
A2	WPM-5/W1,M-G	681.06	690.00	8.94	Construction monitoring	Focus on sensitive species
A2	WPM-6/W1,M-G	681.06	690.00	8.94	Fisheries monitoring	Note presence of water, fish at time of construction
A2	WPM-7/W1,M-G	681.06	690.00	8.94	Post-construction monitoring	Only at stream crossings, areas with sensitive species
A3	WPM-5/M-G	662.32	662.58	0.26	Construction monitoring	Focus on sensitive species
A3	WPM-5/W1,M-G	701.25	702.28	1.03	Construction monitoring	Focus on sensitive species, seasonally inundated grassland
A3	WPM-5/W1,M-G,R	690.00	697.51	7.51	Construction monitoring	Focus on sensitive species, seasonally inundated grassland
A3	WPM-6/W1,M-G	701.25	702.28	1.03	Fisheries monitoring	Note presence of water, fish at time of construction
A3	WPM-6/W1,M-G,R	690.00	697.51	7.51	Fisheries monitoring	Note presence of water, fish at time of construction
A3	WPM-7/M-G	662.32	662.58	0.26	Post-construction monitoring	Only in areas with water or sensitive species

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
A3	WPM-7/W1,M-G	701.25	702.28	1.03	Post-construction monitoring	Only at stream crossings, areas with sensitive species
A3	WPM-7/W1,M-G,R	690.00	697.51	7.51	Post-construction monitoring	Only at stream crossings, areas with sensitive species
B1	WPM-5/M-G	662.32	662.58	0.26	Construction monitoring	Focus on sensitive species
B1	WPM-7/M-G	662.32	662.58	0.26	Post-construction monitoring	Only at stream crossings, areas with sensitive species
B2	WPM-5/W1	688.30	688.53	0.23	Construction monitoring	Focus on sensitive species
B2	WPM-5/W1,M-G	680.77	686.92	6.15	Construction monitoring	Focus on sensitive species
B2	WPM-6/M-G	680.77	686.92	6.15	Fisheries monitoring	Note presence of water, fish at time of construction
B2	WPM-7/W1	688.30	688.53	0.23	Post-construction monitoring	Only at stream crossings, areas with sensitive species
B2	WPM-7/W1,M-G	680.77	686.92	6.15	Post-construction monitoring	Only at stream crossings, areas with sensitive species
B3	WPM-5/W1	690.45	696.30	5.85	Construction monitoring	Focus on sensitive species, seasonally inundated grassland
B3	WPM-5/W1	701.51	702.30	0.79	Construction monitoring	Focus on sensitive species, seasonally inundated grassland
B3	WPM-6/W1	690.45	696.30	5.85	Fisheries monitoring	Note presence of water, fish at time of construction
B3	WPM-7/W1	690.45	696.30	5.85	Post-construction monitoring	Only at stream crossings, areas with sensitive species
B3	WPM-7/W1	701.51	702.30	0.79	Post-construction monitoring	Only at stream crossings, areas with sensitive species
C1	WPM-5/W1	670.55	672.28	1.73	Construction monitoring	Focus on sensitive species
C1	WPM-5/W1	672.40	673.15	0.75	Construction monitoring	Focus on sensitive species
C1	WPM-5/W1	673.27	675.11	1.84	Construction monitoring	Focus on sensitive species
C1	WPM-5/W1	675.23	676.00	0.77	Construction monitoring	Focus on sensitive species
C1	WPM-7/W1	670.55	672.28	1.73	Post-construction monitoring	Only at stream crossings, areas with sensitive species

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
C1	WPM-7/W1	672.40	673.15	0.75	Post-construction monitoring	Only at stream crossings, areas with sensitive species
C1	WPM-7/W1	673.27	675.11	1.84	Post-construction monitoring	Only at stream crossings, areas with sensitive species
C1	WPM-7/W1	675.23	676.00	0.77	Post-construction monitoring	Only at stream crossings, areas with sensitive species
C2	WPM-5/W1,M-G	676.00	683.80	7.8	Construction monitoring	Focus on sensitive species
C2	WPM-6/W1,M-G	676.00	683.80	7.8	Fisheries monitoring	Note presence of water, fish at time of construction
C2	WPM-7/W1,M-G	676.00	683.80	7.8	Post-construction monitoring	Only at stream crossings, areas with sensitive species
C3	WPM-5/W1	693.20	696.28	3.08	Construction monitoring	Focus on sensitive species
C3	WPM-6/W1	693.20	696.28	3.08	Fisheries monitoring	Note presence of water, fish at time of construction
C3	WPM-7/W1	693.20	696.28	3.08	Post-construction monitoring	Only at stream crossings, areas with sensitive species
D1	WPM-5/W1,M-G	670.18	676.00	5.82	Construction monitoring	Focus on sensitive species
D1	WPM-6/W1,M-G	670.18	676.00	5.82	Fisheries monitoring	Note presence of water, fish at time of construction
D1	WPM-7/W1,M-G	670.18	676.00	5.82	Post-construction monitoring	Only at stream crossings, areas with sensitive species
D2	WPM-5/W1	683.88	690.00	6.12	Construction monitoring	Focus on sensitive species
D2	WPM-5/W1,M-G	676.00	676.82	0.82	Construction monitoring	Focus on sensitive species
D2	WPM-6/W1	683.88	690.00	6.12	Fisheries monitoring	Note presence of water, fish at time of construction
D2	WPM-6/W1,M-G	676.00	676.82	0.82	Fisheries monitoring	Note presence of water, fish at time of construction
D2	WPM-7/W1	682.02	682.24	0.22	Post-construction monitoring	Only at stream crossings, areas with sensitive species
D2	WPM-7/W1	683.88	690.00	6.12	Post-construction monitoring	Only at stream crossings, areas with sensitive species

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
D2	WPM-7/W1,M-G	676.00	676.82	0.82	Post-construction monitoring	Only at stream crossings, areas with sensitive species
D2	WPM5/W1	682.02	682.24	0.22	Construction monitoring	Focus on sensitive species
D3	WPM-5/W1	690.00	694.27	4.27	Construction monitoring	Focus on sensitive species
D3	WPM-6/W1	690.00	694.27	4.27	Fisheries monitoring	Note presence of water, fish at time of construction
D3	WPM-7/W1	690.00	694.27	4.27	Post-construction monitoring	Only at stream crossings, areas with sensitive species

**ENVIRONMENTAL  
LINE  
LIST**

**OIL FIELD DEVELOPMENT AREA**

**FISHERIES PROTECTION  
MEASURES**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Fisheries Protection Measures

EAS Sheet #	EAS Code	From Grid Pt	To Grid Pt	Distance (km)	Specific Information	Remarks
A2	FPM-1/W1,M-G	685.35	690.00	4.65	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
A2	FPM-2/W1,M-G	681.06	690.00	8.94	Streambank rehabilitation	Salvage all topsoil or native material
A3	FPM-1/W1	701.25	702.28	1.03	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
A3	FPM-1/W1,R	690.00	697.51	7.51	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
A3	FPM-2/W1	701.25	702.28	1.03	Streambank rehabilitation	Salvage all topsoil or native material
A3	FPM-2/W1,R	690.00	697.51	7.51	Streambank rehabilitation	Salvage all topsoil or native material
B2	FPM-1/M-G	680.77	686.92	6.15	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
B2	FPM-2/M-G	680.77	686.92	6.15	Streambank rehabilitation	Salvage all topsoil or native material
B3	FPM-1/W1	695.00	696.30	1.3	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
B3	FPM-2/W1	690.45	696.30	5.85	Streambank rehabilitation	Salvage all topsoil or native material
C2	FPM-1/W1,M-G	676.00	683.00	7	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
C2	FPM-2/W1,M-G	676.00	683.80	7.8	Streambank rehabilitation	Salvage all topsoil or native material
C3	FPM-1/W1	693.20	696.28	3.08	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
C3	FPM-2/W1	693.20	696.28	3.08	Streambank rehabilitation	Salvage all topsoil or native material
D1	FPM-1/W1,M-G	670.18	676.00	5.82	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
D1	FPM-2/W1,M-G	670.18	676.00	5.82	Streambank rehabilitation	Salvage all topsoil or native material
D2	FPM-1/W1	683.88	690.00	6.12	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
D2	FPM-1/W1,M-G	676.00	676.82	0.82	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
D2	FPM-2/W1	683.88	690.00	6.12	Streambank rehabilitation	Salvage all topsoil or native material
D2	FPM-2/W1,M-G	676.00	676.82	0.82	Streambank rehabilitation	Salvage all topsoil or native material
D3	FPM-1/W1	690.00	694.27	4.27	Village consultation	Consult with local officials prior to construction, as explained in EAS handbook
D3	FPM-2/W1	690.00	694.27	4.27	Streambank rehabilitation	Salvage all topsoil or native material

**ENVIRONMENTAL  
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**OIL FIELD DEVELOPMENT AREA**

**EROSION AND SEDIMENT CONTROL  
MEASURES (to be developed)**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

**ENVIRONMENTAL  
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**OIL FIELD DEVELOPMENT AREA**

**SOIL HANDLING AND  
SPECIAL AREA RECLAMATION**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Soil Handling and Special Area

EAS Sheet #	EAS Code	From Grid Pt	To Grid Pt	Distance (km)	Specific Information	Remarks
A1	RECL-1/A	662.30	671.18	8.88	Topsoil salvage	Salvage all topsoil
A1	RECL-1/A	672.00	676.00	4	Topsoil salvage	Salvage all topsoil
A1	RECL-2/A1	662.30	665.80	3.5	Limited topsoil salvage	Active agricultural areas only
A1	RECL-2/A1	665.88	676.00	10.12	Limited topsoil salvage	Active agricultural areas only
A2	RECL-1/A	676.00	682.85	6.85	Topsoil salvage	Salvage all topsoil
A2	RECL-1/A	682.90	690.00	7.1	Topsoil salvage	Salvage all topsoil
A2	RECL-2/A1	676.00	679.00	3	Limited topsoil salvage	Active agricultural areas only
A2	RECL-2/A1	679.18	685.45	6.27	Limited topsoil salvage	Active agricultural areas only
A2	RECL-2/A1	685.80	690.00	4.2	Limited topsoil salvage	Active agricultural areas only
A3	RECL-1/A	690.00	694.00	4	Topsoil salvage	Salvage all topsoil
A3	RECL-1/A	696.50	698.38	1.88	Topsoil salvage	Salvage all topsoil
A3	RECL-1/A	700.92	702.08	1.16	Topsoil salvage	Salvage all topsoil
A3	RECL-2/A1	690.00	692.43	2.43	Limited topsoil salvage	Active agricultural areas only
A3	RECL-2/A1	693.26	695.02	1.76	Limited topsoil salvage	Active agricultural areas only
A3	RECL-2/A1	695.14	695.52	0.38	Limited topsoil salvage	Active agricultural areas only
A3	RECL-2/A1	695.87	696.15	0.28	Limited topsoil salvage	Active agricultural areas only
A3	RECL-2/A1	696.38	702.07	5.69	Limited topsoil salvage	Active agricultural areas only
B1	RECL-1/A	662.32	675.80	13.48	Topsoil salvage	Salvage all topsoil
B1	RECL-2/A1	662.32	668.84	6.52	Limited topsoil salvage	Active agricultural areas only
B1	RECL-2/A1	669.27	669.72	0.45	Limited topsoil salvage	Active agricultural areas only
B1	RECL-2/A1	670.60	672.53	1.93	Limited topsoil salvage	Active agricultural areas only
B1	RECL-2/A1	673.00	676.00	3	Limited topsoil salvage	Active agricultural areas only

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
B2	RECL-1/A	676.08	685.29	9.21	Topsoil salvage	Salvage all topsoil
B2	RECL-1/A	685.50	686.20	0.7	Topsoil salvage	Salvage all topsoil
B2	RECL-1/A	687.50	689.35	1.85	Topsoil salvage	Salvage all topsoil
B2	RECL-2/A1	676.00	690.00	14	Limited topsoil salvage	Active agricultural areas only
B3	RECL-1/A	694.37	695.93	1.56	Topsoil salvage	Salvage all topsoil
B3	RECL-1/A	696.19	698.88	2.69	Topsoil salvage	Salvage all topsoil
B3	RECL-1/A	700.13	702.30	2.17	Topsoil salvage	Salvage all topsoil
B3	RECL-2/A1	690.00	696.41	6.41	Limited topsoil salvage	Active agricultural areas only
B3	RECL-2/A1	696.80	702.30	5.5	Limited topsoil salvage	Active agricultural areas only
C1	RECL-1/A	662.38	673.35	10.97	Topsoil salvage	Salvage all topsoil
C1	RECL-1/A	673.81	676.00	2.19	Topsoil salvage	Salvage all topsoil
C1	RECL-2/A1	662.38	676.00	13.62	Limited topsoil salvage	Active agricultural areas only
C2	RECL-1/A	676.00	683.78	7.78	Topsoil salvage	Salvage all topsoil
C2	RECL-1/A	684.80	686.17	1.37	Topsoil salvage	Salvage all topsoil
C2	RECL-1/A	688.45	690.00	1.55	Topsoil salvage	Salvage all topsoil
C2	RECL-2/A1	676.00	685.80	9.8	Limited topsoil salvage	Active agricultural areas only
C2	RECL-2/A1	686.07	689.75	3.68	Limited topsoil salvage	Active agricultural areas only
C3	RECL-1/A	690.00	692.08	2.08	Topsoil salvage	Salvage all topsoil
C3	RECL-1/A	694.20	696.82	2.62	Topsoil salvage	Salvage all topsoil
C3	RECL-1/A	697.68	699.20	1.52	Topsoil salvage	Salvage all topsoil
C3	RECL-1/A	700.49	702.35	1.86	Topsoil salvage	Salvage all topsoil
C3	RECL-2/A1	690.00	702.35	12.35	Limited topsoil salvage	Active agricultural areas only
D1	RECL-1/A	662.43	663.07	0.64	Topsoil salvage	Salvage all topsoil
D1	RECL-1/A	664.22	668.40	4.18	Topsoil salvage	Salvage all topsoil

**Oil Field Development Area  
Chad**

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Grid Pt</b>	<b>To Grid Pt</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
D1	RECL-1/A	669.00	669.38	0.38	Topsoil salvage	Salvage all topsoil
D1	RECL-1/A	669.80	672.13	2.33	Topsoil salvage	Salvage all topsoil
D1	RECL-1/A	673.05	675.10	2.05	Topsoil salvage	Salvage all topsoil
D1	RECL-1/A	675.20	675.90	0.7	Topsoil salvage	Salvage all topsoil
D1	RECL-2/A1	662.43	676.00	13.57	Limited topsoil salvage	Active agricultural areas only
D2	RECL-1/A	676.00	677.80	0.8	Topsoil salvage	Salvage all topsoil
D2	RECL-1/A	680.16	683.72	3.56	Topsoil salvage	Salvage all topsoil
D2	RECL-1/A	684.73	686.28	1.55	Topsoil salvage	Salvage all topsoil
D2	RECL-1/A	686.50	688.81	2.31	Topsoil salvage	Salvage all topsoil
D2	RECL-1/A	689.01	690.00	0.99	Topsoil salvage	Salvage all topsoil
D2	RECL-2/A1	676.00	683.17	7.17	Limited topsoil salvage	Active agricultural areas only
D2	RECL-2/A1	683.22	684.18	0.96	Limited topsoil salvage	Active agricultural areas only
D2	RECL-2/A1	684.24	687.80	3.56	Limited topsoil salvage	Active agricultural areas only
D2	RECL-2/A1	687.87	688.14	0.27	Limited topsoil salvage	Active agricultural areas only
D2	RECL-2/A1	688.58	689.10	0.52	Limited topsoil salvage	Active agricultural areas only
D2	RECL-2/A1	689.23	690.00	0.77	Limited topsoil salvage	Active agricultural areas only
D3	RECL-1/A	690.14	691.13	0.99	Topsoil salvage	Salvage all topsoil
D3	RECL-1/A	692.17	293.00	0.83	Topsoil salvage	Salvage all topsoil
D3	RECL-1/A	693.20	698.49	5.29	Topsoil salvage	Salvage all topsoil
D3	RECL-1/A	699.58	702.15	2.57	Topsoil salvage	Salvage all topsoil
D3	RECL-2/A1	690.00	698.30	8.3	Limited topsoil salvage	Active agricultural areas only
D3	RECL-2/A1	698.42	702.40	3.98	Limited topsoil salvage	Active agricultural areas only

**ENVIRONMENTAL  
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**TRANSPORTATION SYSTEM**

**VEGETATION AND WILDLIFE  
RESOURCES**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Vegetation and Wildlife Resources

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
1	WR-2	1.50	2.10	0.6	Loule River	
1	WR-3	1.50	2.10	0.6	Fishery resource	
2	WR-2	7.35	7.60	0.25	Seasonally inundated grassland, gallery forest	
2	WR-3	7.35	7.60	0.25	Fishery resource	
6	WR-2	36.15	36.50	0.35	Marshland	
6	WR-2	40.30	40.45	0.15	Marshland	
6	WR-3	36.15	36.50	0.35	Possible fishery resource	
6	WR-3	40.30	40.45	0.15	Possible fishery resource	
8	WR-2	54.75	55.00	0.25	Streamside wooded savanna	
8	WR-3	54.75	55.00	0.25	Fishery resource	
10	WR-2	67.00	67.10	0.1	Gallery forest	
10	WR-3	62.95	63.10	0.15	Possible fishery resource	
10	WR-3	67.00	67.10	0.1	Fishery resource	
12	WR-2	79.70	79.85	0.15	Streamside wooded savanna	
12	WR-3	79.70	79.85	0.15	Fishery resource	
13	WR-2	83.85	83.95	0.1	Streamside wooded savanna	
13	WR-3	83.85	83.95	0.1	Possible fishery resource	
14	WR-3	91.75	91.90	0.15	Possible fishery resource	
18	WR-3	119.40	119.50	0.1	Possible fishery resource	
20	WR-1	131.29	138.02	6.73	Seasonal elephant occurrence	Known elephant migration corridor during the dry season
21	WR-1	138.02	144.75	6.73	Seasonal hippopotamus occurrence	Known hippopotamus use of Lim River and vicinity during wet season

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
21	WR-1	138.02	144.75	6.73	Seasonal elephant occurrence	Known elephant migration corridor during the dry season
21	WR-2	139.80	139.95	0.15	Lim River, riparian vegetation	
21	WR-3	139.95	140.40	0.45	Fishery resource	
26	WR-1	177.00	178.48	1.48	Potential for hippopotamus	
26	WR-2	178.10	178.20	0.1	Mbere River, riparian vegetation	
26	WR-3	178.10	178.20	0.1	Fishery resource	

**ENVIRONMENTAL  
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**TRANSPORTATION SYSTEM**

**VEGETATION AND WILDLIFE  
PROTECTION MEASURES**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Vegetation and Wildlife Protection Measures

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
1	WPM-1	1.50	2.10	0.6	Environmental awareness program	Focus on river crossing, limiting disturbance, prohibition on hunting
1	WPM-2	1.50	2.10	0.6	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
1	WPM-3	1.50	2.10	0.6	Construction management	Focus on stream crossings, prohibition on hunting
2	WPM-1	7.35	7.60	0.25	Environmental awareness program	Focus on river crossing, limiting disturbance, prohibition on hunting
2	WPM-2	7.35	7.60	0.25	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
2	WPM-3	7.35	7.60	0.25	Construction management	Focus on stream crossings, prohibition on hunting
6	WPM-1	36.15	36.50	0.35	Environmental awareness program	Focus on wetland habitat
6	WPM-1	40.30	40.45	0.15	Environmental awareness program	Focus on wetland habitat
6	WPM-3	36.15	36.50	0.35	Construction management	Focus on marshlands
6	WPM-3	40.30	40.45	0.15	Construction management	Focus on marshlands
8	WPM-1	54.75	55.00	0.25	Environmental awareness program	Focus on stream crossings, sensitive species
8	WPM-2	54.75	55.00	0.25	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
8	WPM-3	54.75	55.00	0.25	Construction management	Focus on stream crossings
10	WPM-1	62.95	63.10	0.15	Environmental awareness program	Focus on stream crossings
10	WPM-1	67.00	67.10	0.1	Environmental awareness program	Focus on stream crossings
10	WPM-2	67.00	67.10	0.1	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
10	WPM-3	62.95	63.10	0.15	Construction management	Focus on stream crossings
10	WPM-3	67.00	67.10	0.1	Construction management	Focus on stream crossings
12	WPM-1	79.70	79.85	0.15	Environmental awareness program	Focus on stream crossings, sensitive species

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
12	WPM-2	79.70	79.85	0.15	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
12	WPM-3	79.70	79.85	0.15	Construction management	Focus on stream crossings
13	WPM-1	83.85	83.95	0.1	Environmental awareness program	Focus on stream crossings, sensitive species
13	WPM-3	83.85	83.95	0.1	Construction management	Focus on stream crossings
14	WPM-1	91.75	91.90	0.15	Environmental awareness program	Focus on stream crossings
14	WPM-3	91.75	91.90	0.15	Construction management	Focus on stream crossings
18	WPM-1	119.40	119.50	0.1	Environmental awareness program	Focus on stream crossings
18	WPM-3	119.40	119.50	0.1	Construction management	Focus on stream crossings
20	WPM-1	131.29	138.02	6.73	Environmental awareness program	Focus on elephants, hippopotamus, protection of Lim River, prohibition on hunting
21	WPM-1	138.02	144.75	6.73	Environmental awareness program	Focus on elephants, hippopotamus, protection of Lim River, prohibition on hunting
21	WPM-2	139.95	140.40	0.45	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
21	WPM-3	139.95	140.40	0.45	Construction management	Focus on stream crossing, protection of gallery forest
26	WPM-1	177.00	178.48	1.48	Environmental awareness program	Focus on hippopotamus, stream crossings, river fisheries
26	WPM-2	178.10	178.20	0.1	Reduce impacts to wildlife corridors	Consider implementing 1 of 3 options explained in EAS handbook
26	WPM-3	178.10	178.20	0.1	Construction management	Focus on stream crossings

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**TRANSPORTATION SYSTEM**

**MONITORING, SURVEYS AND  
SEASONAL RESTRICTIONS**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

## Monitoring, Surveys and Seasonal Restrictions

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
1	WPM-5	1.50	2.10	0.6	Construction monitoring	Document occurrence of sensitive species
1	WPM-6	1.50	2.10	0.6	Fisheries monitoring	Note presence of water, fish at time of construction
1	WPM-7	1.50	2.10	0.6	Post-construction monitoring	Only at stream crossings, areas with sensitive species
2	WPM-5	7.35	7.60	0.25	Construction monitoring	Document occurrence of sensitive species
2	WPM-6	7.35	7.60	0.25	Fisheries monitoring	Note presence of water, fish at time of construction
2	WPM-7	7.35	7.60	0.25	Post-construction monitoring	Only at stream crossings, areas with sensitive species
6	WPM-5	36.15	36.50	0.15	Construction monitoring	Document occurrence of sensitive species
6	WPM-5	40.30	40.45	0.15	Construction monitoring	Document occurrence of sensitive species
6	WPM-6	36.15	36.50	0.35	Fisheries monitoring	Note presence of water, fish at time of construction
6	WPM-6	40.30	40.45	0.15	Fisheries monitoring	Note presence of water, fish at time of construction
6	WPM-7	36.15	36.50	0.35	Post-construction monitoring	Only at stream crossings, areas with sensitive species
6	WPM-7	40.30	40.45	0.15	Post-construction monitoring	Only at stream crossings, areas with sensitive species
8	WPM-5	54.75	55.00	0.25	Construction monitoring	Document occurrence of sensitive species
8	WPM-6	54.75	55.00	0.25	Fisheries monitoring	Note presence of water, fish at time of construction
8	WPM-7	54.75	55.00	0.25	Post-construction monitoring	Only at stream crossings, areas with sensitive species
10	WPM-5	67.00	67.10	0.1	Construction monitoring	Document occurrence of sensitive species
10	WPM-6	62.95	63.10	0.15	Fisheries monitoring	Note presence of water, fish at time of construction

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
10	WPM-6	67.00	67.10	0.1	Fisheries monitoring	Note presence of water, fish at time of construction
10	WPM-7	62.95	63.10	0.15	Post-construction monitoring	Only at stream crossings, areas with sensitive species
10	WPM-7	67.00	67.10	0.1	Post-construction monitoring	Only at stream crossings, areas with sensitive species
12	WPM-5	79.70	79.85	0.15	Construction monitoring	Document occurrence of sensitive species
12	WPM-6	79.70	79.85	0.15	Fisheries monitoring	Note presence of water, fish at time of construction
12	WPM-7	79.70	79.85	0.15	Post-construction monitoring	Only at stream crossings, areas with sensitive species
13	WPM-5	83.85	83.95	0.1	Construction monitoring	Document occurrence of sensitive species
13	WPM-6	83.85	83.95	0.1	Fisheries monitoring	Note presence of water, fish at time of construction
13	WPM-7	83.85	83.95	0.1	Post-construction monitoring	Only at stream crossings, areas with sensitive species
14	WPM-6	91.75	91.90	0.15	Fisheries monitoring	Note presence of water, fish at time of construction
14	WPM-7	91.75	91.90	0.15	Post-construction monitoring	Only at stream crossings, areas with sensitive species
18	WPM-6	119.40	119.50	0.1	Fisheries monitoring	Note presence of water, fish at time of construction
18	WPM-7	119.40	119.50	0.1	Post-construction monitoring	Only at stream crossings, areas with sensitive species
20	WPM-4	131.29	138.02	6.73	Pre-construction surveys	Document occurrence of elephants, hippopotamus
20	WPM-5	131.29	138.02	6.73	Construction monitoring	Focus on elephants, hippopotamus
20	WPM-7	131.29	138.02	6.73	Post-construction monitoring	Only at stream crossings, areas with sensitive species
21	WPM-4	138.02	144.75	6.73	Pre-construction surveys	Document occurrence of elephants, hippopotamus
21	WPM-5	138.02	144.75	6.73	Construction monitoring	Focus on elephants, hippopotamus

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
21	WPM-6	139.95	140.40	0.45	Fisheries monitoring	Note presence of water, fish at time of construction
21	WPM-7	138.02	144.75	6.73	Post-construction monitoring	Only at stream crossings, areas with sensitive species
26	WPM-4	177.00	178.48	1.48	Pre-construction surveys	Document occurrence of hippopotamus
26	WPM-5	177.00	178.48	1.48	Construction monitoring	Focus on hippopotamus
26	WPM-6	178.10	178.20	0.1	Fisheries monitoring	Note presence of water, fish at time of construction
26	WPM-7	177.00	178.48	1.48	Post-construction monitoring	Only at stream crossings, areas with sensitive species

**ENVIRONMENTAL  
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**TRANSPORTATION SYSTEM**

**FISHERIES PROTECTION  
MEASURES**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Fisheries Protection Measures

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
1	FPM-1	1.50	2.10	0.6	Village consultation	Consult with village officials regarding disturbance and river access on the Loule River. In conjunction with general village consultation process
1	FPM-2	1.50	2.10	0.6	Streambank rehabilitation	Salvage topsoil or native material
2	FPM-1	7.35	7.60	0.25	Village consultation	Consult with village officials regarding disturbance and river access on the Loule River. In conjunction with general village consultation process
2	FPM-2	7.35	7.60	0.25	Streambank rehabilitation	Salvage topsoil or native material
8	FPM-1	54.75	55.00	0.25	Village consultation	Consult with village officials regarding disturbance and river access. In conjunction with general village consultation process
8	FPM-2	54.75	55.00	0.25	Streambank rehabilitation	Salvage topsoil or native material
10	FPM-1	67.00	67.10	0.1	Village consultation	Consult with village officials regarding disturbance and river access. In conjunction with general village consultation process
10	FPM-2	62.95	63.10	0.15	Streambank rehabilitation	Salvage topsoil or native material
10	FPM-2	67.00	67.10	0.1	Streambank rehabilitation	Salvage topsoil or native material
12	FPM-1	79.70	79.85	0.15	Village consultation	Consult with village officials regarding disturbance and river access. In conjunction with general village consultation process
12	FPM-2	79.70	79.85	0.15	Streambank rehabilitation	Salvage topsoil or native material
13	FPM-2	83.85	83.95	0.1	Streambank rehabilitation	Salvage topsoil or native material
14	FPM-2	91.75	91.90	0.15	Streambank rehabilitation	Salvage topsoil or native material
18	FPM-2	119.40	119.50	0.1	Streambank rehabilitation	Salvage topsoil or native material
21	FPM-1	139.95	140.40	0.45	Village consultation	Consult with village officials regarding disturbance and river access on the Lim River. In conjunction with general village consultation process

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
21	FPM-2	139.95	140.40	0.45	Streambank rehabilitation	Salvage topsoil or native material
26	FPM-1	178.10	178.20	0.1	Village consultation	Consult with village officials regarding disturbance and river access on the Mbere River. In conjunction with general village consultation process
26	FPM-2	178.10	178.20	0.1	Streambank rehabilitation	Salvage topsoil or native material

**ENVIRONMENTAL  
LINE  
LIST**

**TRANSPORTATION SYSTEM**

**SOIL EROSION AND SEDIMENT CONTROL  
CONTROL MEASURES (to be developed)**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

**ENVIRONMENTAL  
LINE  
LIST**

**TRANSPORTATION SYSTEM**

**SOIL HANDLING AND  
SPECIAL AREA RECLAMATION**

**CHAD EXPORT PROJECT**

**CHAD PORTION**

# Soil Handling and Special Area Reclamation

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
1	RECL-1	2.50	3.15	0.65	Topsoil salvage	Salvage all topsoil
1	RECL-2	0.00	0.85	0.85	Limited topsoil salvage	Active agricultural areas only
1	RECL-2	2.10	2.50	0.4	Limited topsoil salvage	Active agricultural areas only
1	RECL-2	3.15	5.35	2.2	Limited topsoil salvage	Active agricultural areas only
2	RECL-2	6.60	7.35	0.75	Limited topsoil salvage	Active agricultural areas only
2	RECL-2	7.60	7.95	0.35	Limited topsoil salvage	Active agricultural areas only
2	RECL-2	8.15	8.75	0.6	Limited topsoil salvage	Active agricultural areas only
2	RECL-2	10.35	10.95	0.6	Limited topsoil salvage	Active agricultural areas only
3	RECL-1	19.50	19.65	0.15	Topsoil salvage	Salvage all topsoil
3	RECL-1	19.80	20.06	0.26	Topsoil salvage	Salvage all topsoil
4	RECL-1	20.05	21.20	0.15	Topsoil salvage	Salvage all topsoil
4	RECL-1	26.65	27.06	0.41	Topsoil salvage	Salvage all topsoil
4	RECL-2	21.20	22.70	0.5	Limited topsoil salvage	Active agricultural areas only
4	RECL-2	24.60	24.80	0.2	Limited topsoil salvage	Active agricultural areas only
4	RECL-2	25.05	25.15	0.1	Limited topsoil salvage	Active agricultural areas only
5	RECL-1	27.35	27.65	0.3	Topsoil salvage	Salvage all topsoil
5	RECL-1	28.00	28.40	0.4	Topsoil salvage	Salvage all topsoil
5	RECL-1	31.80	32.50	0.7	Topsoil salvage	Salvage all topsoil
5	RECL-2	27.65	28.00	0.35	Limited topsoil salvage	Active agricultural areas only
5	RECL-2	28.40	29.00	0.6	Limited topsoil salvage	Active agricultural areas only
6	RECL-1	38.40	39.05	0.65	Topsoil salvage	Salvage all topsoil
6	RECL-1	40.55	41.16	0.61	Topsoil salvage	Salvage all topsoil
6	RECL-2	39.80	40.30	0.5	Limited topsoil salvage	Active agricultural areas only

**Transportation System  
Chad**

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
7	RECL-1	41.16	41.35	0.19	Topsoil salvage	Salvage all topsoil
7	RECL-1	43.70	45.20	1.5	Topsoil salvage	Salvage all topsoil
7	RECL-2	41.35	41.50	0.15	Limited topsoil salvage	Active agricultural areas only
8	RECL-1	53.70	54.20	0.5	Topsoil salvage	Salvage all topsoil
8	RECL-1	55.00	55.16	0.16	Topsoil salvage	Salvage all topsoil
8	RECL-2	53.30	53.70	0.4	Limited topsoil salvage	Active agricultural areas only
8	RECL-2	54.20	54.75	0.55	Limited topsoil salvage	Active agricultural areas only
9	RECL-1	55.16	55.80	0.64	Topsoil salvage	Salvage all topsoil
9	RECL-1	59.65	60.05	0.4	Topsoil salvage	Salvage all topsoil
9	RECL-2	58.90	59.65	0.75	Limited topsoil salvage	Active agricultural areas only
9	RECL-2	60.05	61.95	1.9	Limited topsoil salvage	Active agricultural areas only
10	RECL-1	62.60	62.95	0.35	Topsoil salvage	Salvage all topsoil
10	RECL-1	68.15	69.16	1.01	Topsoil salvage	Salvage all topsoil
10	RECL-2	62.95	63.40	0.45	Limited topsoil salvage	Active agricultural areas only
10	RECL-2	65.70	67.00	1.3	Limited topsoil salvage	Active agricultural areas only
10	RECL-2	67.10	68.15	1.05	Limited topsoil salvage	Active agricultural areas only
11	RECL-1	69.15	69.75	0.6	Topsoil salvage	Salvage all topsoil
11	RECL-1	71.85	72.90	1.15	Topsoil salvage	Salvage all topsoil
11	RECL-1	74.30	75.20	0.9	Topsoil salvage	Salvage all topsoil
11	RECL-2	69.75	71.00	1.25	Limited topsoil salvage	Active agricultural areas only
12	RECL-1	81.95	82.65	0.7	Topsoil salvage	Salvage all topsoil
12	RECL-1	82.80	83.20	0.4	Topsoil salvage	Salvage all topsoil
12	RECL-2	76.20	77.20	1	Limited topsoil salvage	Active agricultural areas only
12	RECL-2	77.90	78.70	0.8	Limited topsoil salvage	Active agricultural areas only

EAS Sheet #	EAS Code	From Km Post	To Km Post	Distance (km)	Specific Information	Remarks
12	RECL-2	81.00	81.45	0.45	Limited topsoil salvage	Active agricultural areas only
13	RECL-1	83.20	83.70	0.5	Topsoil salvage	Salvage all topsoil
13	RECL-1	87.10	87.75	0.65	Topsoil salvage	Salvage all topsoil
13	RECL-2	83.70	83.85	0.15	Limited topsoil salvage	Active agricultural areas only
13	RECL-2	83.95	84.85	0.9	Limited topsoil salvage	Active agricultural areas only
13	RECL-2	85.70	86.75	1.05	Limited topsoil salvage	Active agricultural areas only
13	RECL-2	87.75	88.85	1.1	Limited topsoil salvage	Active agricultural areas only
14	RECL-2	91.75	91.90	0.15	Limited topsoil salvage	Active agricultural areas only
14	RECL-2	92.30	93.05	0.75	Limited topsoil salvage	Active agricultural areas only
14	RECL-2	93.40	93.85	0.45	Limited topsoil salvage	Active agricultural areas only
14	RECL-2	94.45	95.60	1.25	Limited topsoil salvage	Active agricultural areas only
14	RECL-2	96.50	96.95	0.45	Limited topsoil salvage	Active agricultural areas only
14	RECL-2	97.10	97.20	0.1	Limited topsoil salvage	Active agricultural areas only
15	RECL-1	101.85	102.80	0.95	Topsoil salvage	Salvage all topsoil
15	RECL-2	97.21	97.60	0.39	Limited topsoil salvage	Active agricultural areas only
15	RECL-2	102.80	104.04	1.24	Limited topsoil salvage	Active agricultural areas only
16	RECL-1	107.00	107.25	0.25	Topsoil salvage	Salvage all topsoil
16	RECL-1	108.25	109.15	0.9	Topsoil salvage	Salvage all topsoil
16	RECL-1	109.90	110.45	0.55	Topsoil salvage	Salvage all topsoil
16	RECL-2	104.40	104.85	0.45	Limited topsoil salvage	Active agricultural areas only
16	RECL-2	106.60	106.80	0.2	Limited topsoil salvage	Active agricultural areas only
17	RECL-1	110.43	111.25	0.82	Topsoil salvage	Salvage all topsoil
17	RECL-1	113.15	113.40	0.25	Topsoil salvage	Salvage all topsoil
17	RECL-1	116.70	116.90	0.2	Topsoil salvage	Salvage all topsoil

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
17	RECL-2	111.25	113.15	1.9	Limited topsoil salvage	Active agricultural areas only
17	RECL-2	113.75	116.70	2.95	Limited topsoil salvage	Active agricultural areas only
18	RECL-1	118.70	118.90	0.2	Topsoil salvage	Salvage all topsoil
18	RECL-2	118.00	118.15	0.15	Limited topsoil salvage	Active agricultural areas only
18	RECL-2	118.90	120.70	1.8	Limited topsoil salvage	Active agricultural areas only
18	RECL-2	121.30	122.20	0.9	Limited topsoil salvage	Active agricultural areas only
18	RECL-2	123.55	124.23	0.68	Limited topsoil salvage	Active agricultural areas only
19	RECL-2	124.25	124.85	0.6	Limited topsoil salvage	Active agricultural areas only
19	RECL-2	125.55	126.20	0.65	Limited topsoil salvage	Active agricultural areas only
20	RECL-1	135.00	136.45	1.45	Topsoil salvage	Salvage all topsoil
20	RECL-2	134.40	135.00	0.6	Limited topsoil salvage	Active agricultural areas only
21	RECL-2	139.95	140.40	0.45	Limited topsoil salvage	Active agricultural areas only
23	RECL-1	156.40	157.75	0.35	Topsoil salvage	Salvage all topsoil
23	RECL-2	152.00	153.25	1.25	Limited topsoil salvage	Active agricultural areas only
23	RECL-2	154.70	155.55	0.85	Limited topsoil salvage	Active agricultural areas only
23	RECL-2	155.80	156.40	0.6	Limited topsoil salvage	Active agricultural areas only
23	RECL-2	157.75	158.21	0.46	Limited topsoil salvage	Active agricultural areas only
24	RECL-1	158.30	158.95	0.65	Topsoil salvage	Salvage all topsoil
24	RECL-2	158.20	158.30	0.1	Limited topsoil salvage	Active agricultural areas only
24	RECL-2	158.95	160.00	1.05	Limited topsoil salvage	Active agricultural areas only
24	RECL-2	160.55	160.75	0.2	Limited topsoil salvage	Active agricultural areas only
24	RECL-2	161.00	164.95	3.95	Limited topsoil salvage	Active agricultural areas only
25	RECL-1	170.60	170.90	0.3	Topsoil salvage	Salvage all topsoil
25	RECL-2	165.15	165.60	0.45	Limited topsoil salvage	Active agricultural areas only

<b>EAS Sheet #</b>	<b>EAS Code</b>	<b>From Km Post</b>	<b>To Km Post</b>	<b>Distance (km)</b>	<b>Specific Information</b>	<b>Remarks</b>
25	RECL-2	166.15	167.15	1	Limited topsoil salvage	Active agricultural areas only
25	RECL-2	168.25	168.60	0.35	Limited topsoil salvage	Active agricultural areas only
26	RECL-1	176.20	176.90	0.7	Topsoil salvage	Salvage all topsoil
26	RECL-1	177.25	178.10	0.85	Topsoil salvage	Salvage all topsoil
26	RECL-2	174.00	174.85	0.85	Limited topsoil salvage	Active agricultural areas only
26	RECL-2	175.70	176.20	0.5	Limited topsoil salvage	Active agricultural areas only
26	RECL-2	176.90	177.25	0.35	Limited topsoil salvage	Active agricultural areas only