

APPENDICES

Appendix – 1 List of Counterpart Personnel

Name	Organization	Position	Remarks
Ministry of Public Works (MoPW)			
Hon. Loseni Dunzo	MoPW	Minister	19 December
Hon. Togba Ngangana	MoPW	Deputy Minister (Technical Services)	19 December
Mr. Roderic G. Smith	MoPW	Deputy Minister (Administration)	4 December
Mr. Ambrose C. Wureh	MoPW	Technical Assistant to the Minister	4 December Main CP
Mr. Edsel Edward Smith	MoPW	Assistant Minister for Technical services	4 December Main CP
Mr. Wellington O. Nagbe	MoPW	Director of Training & Manpower Development of Planning & Programming	8 December
Mr. G. Lahaison Warity	MoPW	Director of Zoning/Land-Use Planning Division	8 December
Mr. William Towah	MoPW	Strategic Management, Consultant and Pillar Adviser	11 December Chairmen of 1 st SC
Mr. Lawrence Y. Paye	MoPW	Chief Architect	11 December 1 st SC, WG Member
Mr. Manfred Verdier	MoPW	Consultant Electromechanical	11 December 1 st SC
Mr. Sandiate S. Juasemai	MoPW	Operations of Road Sector & Drainages	18 December
Ms. Harriett M. Peal	MoPW	Operations of Road Sector & Drainages	18 December
Mr. Jerome Beh	MoPW	Network Engineer of Technical service	5 December JST Office SetUp
Ms. Kyrstal Johnson	MoPW	Assistant of Mr. Beh	8 December JST Office SetUp
Ministry of Foreign Affairs (MoFA)			
Mr. William V.S. Bull	MoFA	Deputy Minister	5 December
Ministry of Planning & Economic Affairs (MoPEA)			
Hon. Amara Konneh	MoPEA	Minister	Not yet
Mr. Sebastian T. Muah	MoPEA	Deputy Minister Economic Affairs	4 December
Mr. A. Pitah-rlah Tiepoh	MoPEA	Research Officer of Economic Cooperation & Integration	11 December 1 st SC
Mr. Browne N. Pouh	MoPEA	Director of Infrastructure	17 December WG Member
Ministry of Transport (MoT)			
Hon Jackson E. Due	MoT	Minister	4 December
Mr. Cllr. Edward K. Goba	MoT	Deputy Minister for Land & Rail Transport	4 December WG Member
Mr. Augustine W. Williams	MoT	Assistant Minister for Administration / Insurance	4 December
Mr. Timothy Lorkola	MoT	Director of Public Affairs	4 December
Mr. Benedict Gray	MoT	Special Assistant	4 December Contact Person for Minister
Mr. D. E. Gongar	MoT	Director of Special Projects	11 December contact person to GTZ
Ministry of Land, Mines and Energy (MoLME)			
Mr. Eugene H. Shannon	MoLME	Minister	5 December
Mr. Amalla Kone	MoLME		5 December
Hon. Ernest C.B. Jones	MoLME	Deputy Minister for Operations	11 December Key Person
Mr. Maxwell C.F. Gwee	LCS	Director of Cartographic	Not yet By Minister Studied in Japan
Mr. Nathaniel K. Cisco	LCS	Assistant Director of Cartographic	17 December WG Member
Monrovia City Corporation (MCC)			
Hon. Ophelia Hoff-Saytumah	MCC	Mayor	5 December
Ms. Elaine Bright	MCC	City Council	5 December
Mr. HHy Peter Kerkulah	MCC	Executive Assistant to the Mayor	5 December 1 st SC
Mr. Othello S. Tarabah	MCC	Program Officer	5 December 1 st SC, WG Member
Dr. P. Marley Thompson, Sr.	MCC	Special Assistant for Mayor	5 December Contact Person to Mayor
Mr. Patrick W. Paye	MCC	Deputy Director of Zoning	17 December WG Member
Liberia Water and Sewer Corporation (LWSC)			
Hon. N. Hun-Bu Tulay	LWSC	Managing Director	11 December

Mr. William E.D. Warner	LWSC	DMD/Technical Services	8 December
Mr. J. Benedict Matalda	LWSC	DMD/Administration & Finance	8 December
Mr. Clarence M. Momoh	LWSC	Technical Services Manager	8 December WG Member
Mr. John F. Carpenter	LWSC	Finance Manager	8 December
J Mr. ulia L. Lardner	LWSC	Assistant Personal Manager	8 December
Mr. Mr. Clarence M. Momoh	LWSC	Technical Services Manager	8 December WG Member
Mr. Mr. Oscar B. Otto	White Plain	Operator A	12 December
Mr. Mr. Jacob D. Selmah,Jr	White Plain	Mechanical Engineer	12 December
Monrovia Transit Authority (MTA) *under MCC			
Mr. Serwar Miah	MTA	Managing Director	6 December
Liberia Institute of Statistic and Geo-Information Services (LISGIS)			
Mr. T. Edward Liberty	LISGIS	Director General	19 December
Mr. Johnson Kai	LISGIS	Deputy Director General for Information and Dissemination	8 December
Mr. Francis Wreh	LISGIS	Deputy Director General for Statistics and Data Processing	8 December
Mr. Thomas L. Daris	LISGIS	Director-GIS/Cartography	8 December
Mr. Augustine Fayiah	LISGIS	Director-Survey &Censuses	20 December
Liberian Hydrological Services (LHS) *under MoLME			
Mr. Saya H. Gwaikolo	LHS	Director	9 December
Mr. Jefferson W. Wylie	LHS	Assistant Director	9 December WG Member
Mr. Anthory Kpadeh	LHS	Chief Meteorologist	9 December
Mr. Frederick Ziama	LHS	Meteorological Section	9 December
Liberian Geographical Services (LGS) *under MoLME			
Carlton Miller	LGS	Director	11 December
Mr. Naghaniel K. Cloco	LGS	Assistant Director	17 December WG Member
Liberia Electricity Corporation (LEC)			
Mr. Alfred G. Jallah	LEC	Acting Deputy Managing Director/Operatons	19 December
Mr. Henry A. Lewis, Sr.	LEC	Director of Project Implementation Unit	19 December
Mr. Phillip G. Freeman	LEC	Corporate Planning Manager	19 December.
Mr. John W. Andrew	LEC	Comptroller	19 December

APPENDIX-2

MINUTES OF MEETING ON STEERING COMMITTEE

Minutes of Meetings on
The Steering Committee for
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

December 11, 2008

P.P. Loseni Dunzo

Hon. Loseni Dunzo
Minister
Ministry of Public Works
The Republic of Liberia

Mr. Masatsugu Komiya

Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)

P.P. Willian V.S. Bull

Ambassador Willian V.S. Bull
Acting Minister
Ministry of Foreign Affairs
The Republic of Liberia

P.P. Amara Konneh

Hon. Amara Konneh
Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia

P.P. Jackson E. Doe

Hon. Jackson E. Doe
Minister
Ministry of Transport
The Republic of Liberia

P.P. Eugene H. Shanon

Hon. Eugene H. Shanon
Minister
Ministry of Land, Mines and Energy
The Republic of Liberia

P.P. Ophelia Hoff-Sayamah

Hon. Ophelia Hoff-Sayamah
Mayor
Monrovia City Corporation
The Republic of Liberia

P.P. N. Hun-Bu Tulay

Hon. N. Hun-Bu Tulay
Managing Director
Liberia Water and Sewer Corporation

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Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. William Towah, Strategic Management, Consultant & Pillar IV Advisor MoPW, on behalf of Minister of Public Works. As the Minister's remarks, Mr. William Towah stressed the need for proceeding the Master Plan Study on Urban Facilities restoration and Improvement in Monrovia by JICA (hereinafter referred to as the Study) under cooperation with related ministries and authorities, smoothly and successfully.

2. Speech by JICA

Mr. Kikuchi, Country Manager of JICA Field Office in Liberia made a speech. In his speech, Mr. Kikuchi made emphasis on cooperation by authorities concerned each other

3. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

The Team distributed the Inception Report (I/R) of the Study to the attendants. And the Team informed that Project Office for the Team has been established in the MoPW.

4. Contents of the Master Plan Study (Inception Report)

The Team headed by Masatsugu Komiya, leader of the Team, submitted the Inception Report for the Study which was prepared by the Team with 20 copies to Liberian side, and explained the contents of the Report.

Liberia side agreed and accepted in principle the contents of the Inception Report.

Liberian side asked to the Team the possibility of expansion of the study area for mapping survey which is conducting by JICA Mapping Team. The Team agreed to reply it after confirmation with JICA Headquarter.

5. Schedule of the Study (Overall)

Mr. Masatsugu Komiya, leader of the Team, also explained the schedule of the Study.

6. Steering Committee

① Members

All the attendants confirmed that the Steering Committee for the Study is comprised with the following ministries and agencies including the Ministry of Land, Mines and Energy (MoLME).

Chair: Ministry of Public Works (MoPW)

Vice Chair: Ministry of Planning and Economic Affairs (MoPEA)

Handwritten signatures and initials:
ATM, JWW, PM, S, ~~AS~~, JWS, JWS

Members: Ministry of Foreign Affaires (MoFA)
 Ministry of Transport (MoT)
 Ministry of Land, Mines and Energy (MoLME)
 Monrovia City Corporation (MCC)
 Liberia Water and Sewer Corporation (LWSC)

② Schedule of the Steering Committee

All the members of the steering committee agreed to have the meetings on quarter of the year as follows.

1st Steering Committee: Today, This meeting
 2nd Steering Committee (Next): Beginning of March, 2009
 Agenda: Confirmation of Progress of the Study, etc.

③ Donors related to the Project

All the members of the steering committee agreed as follows:
 "Donors such as WB, EC, AfDB, USAID, UNDP, etc., which are related to the Study shall be involved in the steering committee as observers, when required."

7. Working Group

① Members

All the attendants confirmed that the Working Group for the Study is comprised with the following members.

Ministries and Agencies	Contact Person	Position of Contact Person
Ministry of Public Works (MoPW)	Mr. Edsel Edward Smith	Consultant Special Project
Ministry of Planning and Economic Affaires (MoPEA)	Mr. Sebastian T. Muah	Deputy Minister
Ministry of Foreign Affaires (MoFA)	Mr. William V.S. Bull	Deputy Minister
Ministry of Transport (MoT)	Mr. Cllr. Edward K. Goba	Deputy Minister for Land & Rail Transport
Ministry of Land, Mines and Energy (MoLME)	Mr. E.C.B. Jones	Deputy Minister of Operation
Monrovia City Corporation (MCC)	Mr. HHy Peter Kerkulah	Executive Assistant to the Mayor
Liberia Water and Sewer Corporation (LWSC)	Mr. Clarence M. Momoh	Technical Service Manager

② Schedule of Working Group

All the members of the steering committee agreed to have the meetings as follows.

"Working Group shall be held for the individual study item with related members when JICA Study Team requests."

③ Other authorities related to the Project

All the members of the steering committee agreed as follows:
 "Other authorities such as LISGIS, etc., which are related to the Study shall be involved in the working group as observers, when required."

Handwritten signatures and initials:
 CAA, JMW, PJK, J, H, 3, BCS

8. Schedule of the Actual Situation Survey (Tentative)

The Team informed the tentative schedule of actual situation survey to be done by the Team in the Study areas as follows:

No.	Item	Tentative Schedule of field activities
1	Traffic Survey and Road Inventory Survey	December 22, 2008 ~ January 31, 2009
2	Public Awareness Survey for Water Supply	December 29, 2008 ~ January 31, 2009
3	Groundwater Survey (Well Inventory Survey)	January 1, 2009 ~ January 31, 2009
4	Water Quality Survey	December 29, 2008 ~ January 31, 2009

The Team requested Liberian side (Chair: MoPW) that Security arrangements for the field survey by the Team members shall be provided by the Liberian side. Liberian side (Chair: MoPW) agreed it.

9. Tentative Schedule of Trial Digging Well as Production Well (Refer to Page 23 and 24 of I/ R.)

The Team informed the tentative schedule of Trial Digging Well as Production Well to be done by the Team in the Study areas as follows:

No.	Item	Tentative Schedule of field activities
1	Selection of the candidate sites	December 15-20, 2008
2	Confirmation of Undertakings to be done by Liberian side	December 15-20, 2008
3	Conducting of Vertical Electric Sounding (VES)	December 29, 2008 - February 28, 2009
4	Construction of Temporary Wells including Testing (Quality and Volume)	December 29, 2008 - February 28, 2009
5	Site Preparation (Undertakings) by Liberia side	March 1 - 15, 2009
6	Construction of Permanent Wells	March 16, 2009 - April 30, 2009

The Team requested Liberian side (Chair: MoPW) that Security arrangements for the Team members shall be provided by the Liberian side. Liberian side (Chair: MoPW) agreed it.

The Team also requested Liberian side (Chair: MoPW) that Public relations activities of the Study including the Earth-breaking ceremony shall be done at the construction sites on March 6 or 7, 2009. Liberian side (Chair: MoPW) agreed it.

10. Questionnaire of each study group (Planning condition set-up group, Road sector group, Water sector group)

The Team distributed the questionnaire of the Study which was prepared by each study group to the members of working group. The Liberian side agreed to reply it accordingly.

Annex I

**List of Participants of the 1st Steering Committee Meeting for
The Master Plan Study on Urban Facilities restoration and Improvement
In Monrovia in the Republic of Liberia**

December 11, 2008

MoPW

Mr. William Towah, Strategic Management, Consultant & Pillar IV Advisor
Mr. Edsel Edward Smith, Assistant Minister for Technical Service
Mr. Ambrose C. Wureh, Technical Assistant to the Minister
Mr. Lawrence Y. Paye, Chief Architect
Mr. Manfred Verdier, Consultant Electromechanical

MoPEA

Mr. A. Pitah-rlah Tiepoh, Research Officer

MoT

Mr. D. E. Gongar, Director of Special Projects

MoLME

Hon. Ernest C.B. Jones, Deputy Minister for Operations
Mr. Saye H. Gwaikolo, Director of LHS
Mr. Jefferson W. Wylie, Assistant Director of LHS

MCC

Mr. Hhy Peter Kerkulah, Executive Assistant to the Mayor
Mr. Othello S. Tarbah, Program Officer

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

JICA Field Office in Liberia

Mr. Isamu KIKUCHI, Country Manager
Ms. Makiko Kimura, Programme Officer
Mr. Lee M. Marlee

The Study Team


Mr. Masatsugu KOMIYA, Team Leader
Mr. Akio NAKAMURA, Deputy Team Leader
Mr. Takashi KADOTA, Land Use Plan
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Nobuyuki IJIMA, Hydraulic Geology
Mr. Hisashi OURA, Groundwater Development Plan/Construction Management
Mr. Tsutomu KAMEYAMA, Sewage Plan/Storm Water Drainage Facility Plan I
Mr. Masatoshi Seno, Sewage Plan/Storm Water Drainage Facility Plan II
Mr. Gaku ADACHI, Coordinator I

Handwritten signatures and initials:
ETM
JWW
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RWR
PES


Minutes of Meetings on
The 2nd Steering Committee for
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia


March 26, 2009



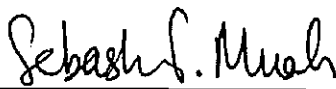
Hon. Losefi Dunzo
Minister
Ministry of Public Works
The Republic of Liberia


P.P.


Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



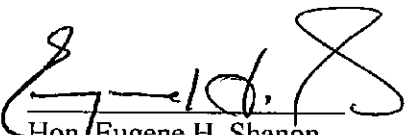
Mr. B. Elias Shonvin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



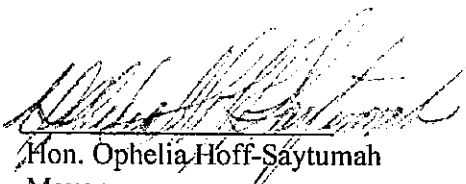
Hon. Amara Konneh
Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia




Hon. Jackson E. Doe
Minister
Ministry of Transport
The Republic of Liberia



Hon. Eugene H. Shanon
Minister
Ministry of Land, Mines and Energy
The Republic of Liberia



Hon. Ophelia Hoff-Saytumah
Mayor
Monrovia City Corporation
The Republic of Liberia



Hon. N. Hun-Bu Tulay
Managing Director
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening Remarks

The Meeting started with opening remarks from Hon. Loseni Dunzo, Minister of MoPW. Following the 1st Steering Committee, the Minister emphasized the needs for conducting the Master Plan Study on Urban Facilities restoration and Improvement in Monrovia by JICA (hereinafter referred to as the Study) under cooperation with related ministries and authorities.

2. Introduction of the Members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

The Team distributed the handouts of the progress of the study and the work activity reporting to the attendants.

3. Report on Progress of the Study

The Team headed by Mr. Akio Nakamura, Deputy Leader of the Team, delivered the handouts of the progress of the study to Liberian side, and introduced the current progress of the study.

Liberia side understood and accepted the current progress of the study.

4. Report on Work Activities

The members of the Team reported the work activities listed below.

- Land Use Plan by Mr. Takashi KADOTA
- Road Facility/ Traffic Condition by Mr. Shuichi YASHIRO
- Water Supply Work by Taketoshi FUJIYAM
- Groundwater Development Plan by Mr. Hisashi OURA
- Urban Development by Mr. Akio NAKAMURA

5. Comments, Opinion and Answers

Hon. Loseni Dunzo, Minister of MoPW expressed his sincere thanks to the Team's intensive work activities.

In terms of questions about the future visions on road and water sector, Liberia side expressed that we, Liberia government has carried out rehabilitation programmes on both of sectors assisted by international donors. The programmes should be realistic and justified based on the budgetary capacity of Liberia government and the various studies.

The Team understood the responses of Liberia side and added that budgetary frame of the Liberia Government and possible donor's funds shall be taken into accounts for preparing the implementation plans of the Master Plan.

Liberia side commented that since the international donors such as the World Bank, EC, etc. have been assisting Liberia, the Master Plan study shall be prepared in cooperation with the donors. The Team agreed that the

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Master Plan shall be formulated in close coordination with other donors as well as Liberia government.

6. Tentative Schedule of Next Steering Committee Meeting (3rd) and Seminar

All the members of the steering committee members agreed to hold the next (3rd) Steering committee meeting and 1st Seminar according to the following tentative schedule.

- 3rd Steering Committee Meeting: 28 April (Tue.) 2009
- 1st Seminar: 29 (Wed.) 2009

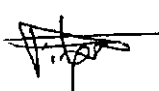

7. Others

In terms of capacity enhancement of the Liberia side, the Team announced that the Mini Workshops were designed and two workshops were already held by the Team and Liberia side are encouraged to attend the coming Mini Workshops in the course of the study.

As per requests of one of the members, the team agreed that the soft copies of the handouts delivered at the 2nd steering committee meeting would be provided to each organization, constituting the steering committee.



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Annex I

List of Participants of the 2nd Steering Committee Meeting for
The Master Plan Study on Urban Facilities restoration and Improvement
In Monrovia in the Republic of Liberia

March 26, 2009

MoPW

Hon. Loseni Dunzo, Minister
Mr. Ambrose C. Wureh, Technical Assistant to the Minister
Mr. Edsel Edward Smith, Assistant Minister for Technical services

MoFA

Ambassador William V.S. Bull, Acting Minister

MoT

Hon Jackson E. Due, Minister
Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport

MCC

Hon. Ophelia Hoff-Saytumah, Mayor
Mr. ATTY. Peter Kerkulah Y, Executive Assistant to the Mayor

LWSC

Hon. N. Hun-Bu Tulay, Managing Director
Mr. Clarence M. Momoh, Technical Services Manager

The Study Team

Mr. Akio NAKAMURA, Deputy Team Leader
Mr. Takashi KADOTA, Land Use Plan
Mr. Shuichi YASHIRO, Traffic Demand Prediction
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Hisashi OURA, Groundwater Development Plan/Construction Management



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Minutes of Meetings on
The 3rd Steering Committee for
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

April 28, 2009

AP. John Howard Smith

Hon. Loseni Dunzo
Minister
Ministry of Public Works
The Republic of Liberia

M. Komiyama

Mr. Masatsugu Komiyama
Leader of Study Team
Japan International Cooperation Agency
(JICA)

B. Shoniyin

Mr. B. Elias Shoniyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia

Sebastien M. Konneh

Hon. Amara Konneh
Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia

J. Doe

Hon. Jackson E. Doe
Minister
Ministry of Transport
The Republic of Liberia

E. H. Shanon

Hon. Eugene H. Shanon
Minister
Ministry of Land, Mines and Energy
The Republic of Liberia

P. Hoff-Saytumah

Hon. Ophelia Hoff-Saytumah
Mayor
Monrovia City Corporation
The Republic of Liberia

N. Hun-Tulay

Hon. N. Hun-Tulay
Managing Director
Liberia Water and Sewer Corporation



For a better tomorrow for all.
Japan International Cooperation Agency

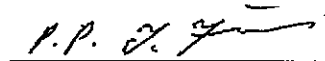
JICA PROJECT TEAM
The Master Plan Study
on
Urban Facilities Restoration and Improvement
in
Monrovia

Minutes of Meetings on
4th Steering Committee Meeting for
JICA / The Master Plan Study on Urban Facilities Restoration and Improvement in
Monrovia in the Republic of Liberia
Monrovia

September 28, 2009



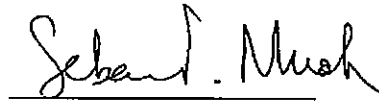
Hon. Samuel Kofi Woods II
Minister
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



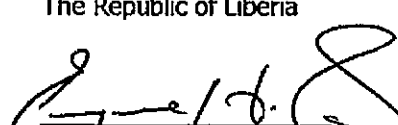
Mr. B. Elias Shorjiyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



Hon. Amara Konneh
Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia



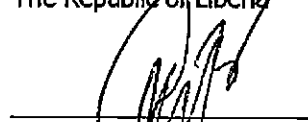
Hon. Alphonse Gaye
Minister
Ministry of Transport
The Republic of Liberia



Hon. Eugene Shannon
Minister
Ministry of Land, Mines and Energy
The Republic of Liberia



Hon. Mary T. Broh
Acting Mayor
Monrovia City Corporation
The Republic of Liberia



Hon. N. Hui-Bu Tulay
Managing Director
Liberia Water and Sewer Corporation
The Republic of Liberia

Participants: See Annex I

1. Opening Remarks

The Meeting started with opening remarks from Hon. Atty. Samuel. Kofi Woods, II, Minister of MPW. The Minister congratulated the achievement of the Study Team and showed his appreciation of the partnership and works done so far.

2. Introduction

JICA Study Team (hereinafter referred to as the Team) and the Liberia side introduced each member individually.

3. Draft Final Report

JICA Study Team handed over 20 hard copies of the Main Report, Appendices and Executive Summary of the Draft Final Report to the Liberian side. The Liberian side received the 20 sets of the Draft Final Report.

3.1 Presentation by the Team

Mr. Masatsugu Komiya, Team Leader of JICA Study Team, delivered a brief background, study flow, and main outputs of the Study so far.

In addition to Mr. Komiya's presentation on the Introduction of the Study, the Team made the following presentations regarding the content of the Draft Final Report:

- Master Plan Formulation (Future vision and land use plan)
- Road and Transportation Sector
- Water Supply/Groundwater Development Sector
- Sanitation Sector
- Storm Water Drainage Sector

The Liberian side confirmed the contents of the presentations.

3.2 Confirmation

The Liberian side understood the content of the Draft Final Report and approved the Draft Final Report in principle.


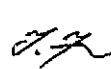
Honorable N. Hun-Bu Tulay, Managing Director of LWSC, mentioned that there is a study conducted by AfDB on rehabilitation of Fiama Sewage Treatment Plant and explained that LWSC is considering this rehabilitation study as an option to deal with the Treatment Plant.


Mr. Komiya of JICA Study Team explained that the Final Report of the Master Plan Study will be officially submitted to the Liberia Side in November, 2009. The Liberian side agreed with this submission schedule.

Mr. Komiya of JICA Study Team explained that for the finalization of the report, Liberian side may give comments on the report, if any, within one week. Liberia side agreed it.

Mr. Komiya of JICA Study Team asked the Liberia side how the official authorization of the Master Plan can be obtained in Liberia. In response, Mr. Sylvester Grigsby, Deputy Minister



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for International Cooperation, MoFA, proposed that the proper procedure is for MoPW to send to LRDC (Liberia Rehabilitation and Development Committee) of MoPEA, in charge of Pillar IV of PRS, and then LRDC to forward it to the cabinet. JICA Study Team understood the procedure and requested such action to be followed by the members of the Steering Committee. The Steering Committee members agreed to follow up the process of the authorization of the Master Plan.

4. Additional Studies by the Team

Mr. Komiya of JICA Study Team explained that the following additional studies will be carried out until next March:

- Monitoring of O&M for Communal Water Supply System at MTA community (Name of expert :Mr. Miyoshi)
- Groundwater Development (Vertical Electric Sounding and Exploratory Well Drilling, Phase II) in Paynesville (Name of expert: Mr. Oura and Mr. Ishizuka)

In addition, the Liberia side requested for support by JICA for EIA to prepare for the implementation of the road projects requested to Japan.

Mr. Komiya of JICA Study Team agreed to carry out the study as follows:

- Technical Support of EIA for Road Sector (Name of expert: Mr. Fukuma)

Mr. Komiya of JICA Study Team requested MoPW to allow JICA Study Team to use the Water Supply Team Room at MPW Building for the additional studies by the Team to be conducted until March 2010

5. Seminar for Draft Final Report

Mr. Komiya of JICA Study Team informed the schedule of the upcoming Seminar for the Draft Final Report to be held on September 29, 2009. The Liberian side confirmed the schedule.

Mr. Smith of MoPW explained that security measures have been requested from MoPW to MoFA for the Seminar.

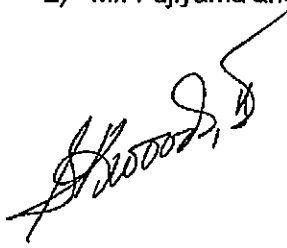
6. Handover Ceremony for Communal Water Supply System at MTA Community

Mr. Komiya of JICA Study Team informed schedule of the upcoming Handover Ceremony for Communal Water Supply System at MTA Community to be held on September 30, 2009. The Liberian side confirmed the schedule.

7. Schedule of the Team Members (Leaving for Japan)

The following schedule of the Team Members leaving for Japan was confirmed with both JICA Study Team and the Liberian side.

- 1) Mr. Komiya (Team Leader), Mr. Nakamura, Mr. M. Takeuchi and Mr. Kameyama, leaving Liberia on September 30 (Wed)
- 2) Mr. Fujiyama and Mr. K. Takeuchi, leaving Liberia on October 2 (Fri)



2



Annex 1

**List of Participants for the 4th Steering Committee Meeting for
The Master Plan Study on Urban Facilities Restoration and Improvement
in Monrovia in the Republic of Liberia**

September 28, 2009

MoPW

Atty. Samuel Kofi Woods II, Minister
Mr. Edsel Edward Smith, Assistant Min. Technical Services Division
Mr. Christian Herbert, Transport Economist

MoT

Hon. G. Alphonso Gaye, Minister
Cllr. Edward K. Goba, Dep. Minister

MoFA

Mr. Silvester Grigsby, Dep. Min. International Cooperation
Mr. Johnnie Fallah, Research Analyst

LWSC

Mr. N. Hun-Bu Tulay, Managing Director
Mr. Clarence M. Momoh, Technical Services Manager

JICA Liberia Field Office (as observer)

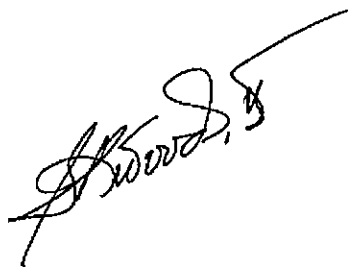
Mr. Makoto FUGIMOTO, Country Manager

The JICA Study Team

Mr. Masatsugu KOMIYA, Team Leader/Restoration and Improvement Plan
Mr. Akio NAKAMURA, Dep. Team Leader/Urban Development
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Masahiro TAKEUCHI, Water Supply Implementation Plan/Water Supply
Maintenance Plan
Mr. Tsutomu KAMEYAMA, Sewage Plan/Storm Water Drainage Facility Plan I
Mr. Akinori MIYOSHI, Operation and Maintenance Planning for Water Supply
Facilities
Mr. Ko TAKEUCHI, Coordinator III/GIS II



SM



W. G. M.

SKJ

ROS

Participants: See Annex I

1. Opening Remarks

The Meeting started with opening remarks from Hon. Loseni Dunzo, Minister of MoPW. The Minister thanked the progress of the Study and the outcome so far to be presented during the Meeting.

2. Introduction of the Members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

JICA Study Team handed over 20 hard copies of the Interim Report to the Liberian side. The Liberian side received the Interim Report.

3. Introduction of the Interim Report

The Team headed by Mr. Masatsugu Komiya, Team Leader of JICA Study Team, delivered a brief background, flow, and schedule of the Study, as well as the main outputs of the Study to date, which is included in the Interim Report.

Liberian side understood and accepted the progress and the schedule of the study.

4. Presentation on Interim Report

The members of the Team reported the summary of the Interim Report listed below:

- Socio-Economic Characteristics and Land Use by Mr. Akio Nakamura
- Existing Condition of Road and Transport by Mr. Masazumi Ono
- Water Supply Sector by Mr. Taketoshi Fujiyama
- Sewage and Storm Water Drainage Sector by Mr. Taketoshi Fujiyama
- Hydrogeological study and Groundwater Development Plan by Mr. Hisashi OURA

Liberian side confirmed and accepted in principle the Interim Report explained by the Team.

5. Comments, Opinion and Answers

(1) Hon. Loseni Dunzo, Minister of MoPW expressed his sincere thanks to the Team's intensive work activities.

(2) Mr. Jefferson Wylie, Director of MoLME, asked JICA Study Team to consider coastal erosion and flood prone areas in its land use planning. JICA Study Team accepted to consider these two factors.

(3) Mr. William V.S. Bull of MoFA requested JICA Study Team to provide training in Japan to gain sufficient capacity to smoothly implement the

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W.V.S. Bull
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Smith
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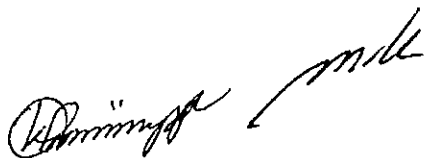
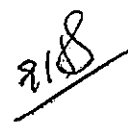
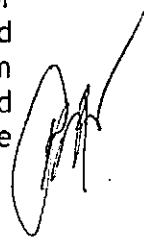
Master Plan. JICA Study Team introduced JICA Training Programs, such as Group Training, etc.

(4) Hon. N. Hun-Bu Tulay of LWSC emphasized the importance to include more stakeholders in the latter phase of the Study to achieve consensus of the Master Plan. In case the number of donor attendants is not satisfactory, the attendants agreed to call the donors through MoFA and respective embassies.

(5) Hon. N. Hun-Bu Tulay from LWSC asked JICA Study Team whether it is possible to grasp the volume and location of available groundwater through our Study. JICA Study Team agreed to disclose more detailed data acquired in ongoing borehole tests and information obtained from analysis in the latter phase of the Study.

(6) Hon. Loseni Dunzo, Minister of MoPW, asked JICA Study Team whether the population forecast of Greater Monrovia considers the government policy to decentralize Monrovia. JICA Study Team replied that the population forecast considers to some extent the decentralization factors which may affect the population growth of Greater Monrovia.

(7) Mr. Mr. Edsel Edward Smith, Assistant Minister for Technical services of MoPW, requested JICA Study Team to provide further assistance in the field of public transport and land use planning in the Study. JICA Study Team understood the need to provide assistance in these areas in the Study and decided to request JICA Headquarter to included such assistance in the Study



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Smith

Annex I

List of Participants of the 3rd Steering Committee Meeting for
The Master Plan Study on Urban Facilities restoration and Improvement
In Monrovia in the Republic of Liberia

April 28, 2009

MoPW

Hon. Loseñi Dunzo, Minister
Mr. Edsel Edward Smith, Assistant Minister for Technical services

MoFA

Ambassador William V.S. Bull, Acting Minister

MoLME

Mr. Jefferson Wylie, Director

MoPEA

Browne N. Pouh, Director

MoT

Hon Jackson E. Due, Minister
Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport

MCC

Mr. ATTY. Peter Kerkulah Y, Executive Assistant to the Mayor

LWSC

Hon. N. Hun-Bu Tulay, Managing Director
Mr. Clarence M. Momoh, Technical Services Manager

The Study Team

Mr. Masatsugu KOMIYA, Team Leader
Mr. Akio NAKAMURA, Deputy Team Leader
Mr. Masazumi ONO, Road Planning/ Road Maintenance Planning
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Hisashi OURA, Groundwater Development Plan/Construction Management
Mr. Ko TAKEUCHI, Project Coordinator/ GIS

APPENDIX-3

RECORD OF DISCUSSION ON WORKING GROUP

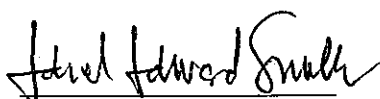
Minutes of Meetings on

1st Working Group for

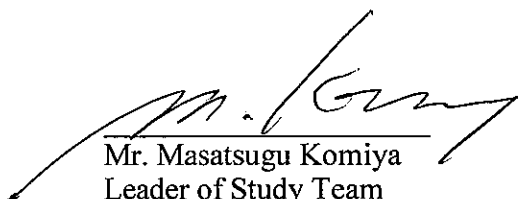
**JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia**

Monrovia

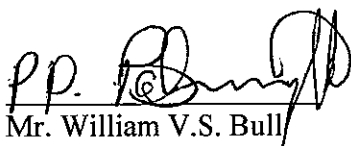
December 17, 2008



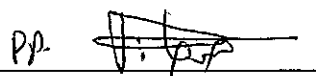
Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



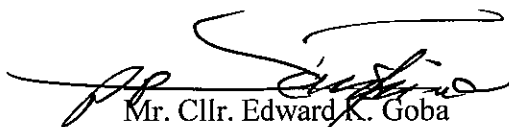
Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



Mr. William V.S. Bull
Deputy Minister
Ministry of Foreign Affairs
The Republic of Liberia



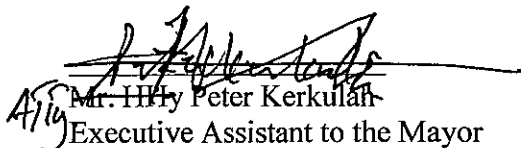
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia




Mr. Cllr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Mr. H.H. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Group Discussions (Confirmation on Questionnaires)

Mr. Komiya, Leader of the Team, offered to have group discussions such as 1) Road sector group including Planning set-up group and 2) Water sector group for the confirmation on the questionnaires which were distributed at the 1st steering committee on December 11, 2008.

Then, each group was organized as follows:

- 1) Road sector group including Planning set-up group: The Team + MoPW, MoLME, MoT, MoPEA, MCC,
- 2) Water sector group: The Team + MoPW, MoLME, LWSC

Both groups confirmed contents on the questionnaires. Liberian side replied to some answer and informed the person or organizations for obtaining the further information.

In the Road sector group including planning set-up group, Liberian side requested the Team to issue letter attention to the related Ministry to obtain information from other relevant authorities such as National Housing Authorities, etc., when needed.

4. Schedule of next Working Group

All the members of the working group agreed to have the next (2nd) working group as follows.

December 29 (Mon), 2008, 10:00 -12:00 at Minister Office of MoPW

And all the members of the working group confirmed that the other authorities such as LISGIS, etc., which are related to the Study will be involved in the working group as observers, when required, through MoPW.

5. Others

Mr. Komiya (Team Leader), informed that he will leave for Japan on December 22, 2008 and Mr. Nakamura (Deputy Team Leader) will be assigned as Main Contact Person of the Mission in Monrovia.

[End]

Annex I

List of Participants of the 1st Working Group Meeting for The Master Plan Study on Urban Facilities Restoration and Improvement In Monrovia in the Republic of Liberia

December 17, 2008

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service
Mr. Ambrose C. Wureh, Technical Assistant to the Minister
Mr. Lawrence Y. Paye, Chief Architect

MoPEA

Mr. Browne N. Pouh, Director of Infrastructure

MoT

Mr. Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport

MoLME

Mr. Jefferson W. Wylie, Assistant Director of LHS
Mr. Naghanial K. Cloco, Assistant Director of LCS

MCC

Mr. Othello S. Tarbah, Program Officer
Mr. Patrick W. Paye, Deputy Director of Zoning

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

The Study Team

Mr. Masatsugu KOMIYA, Team Leader
Mr. Akio NAKAMURA, Deputy Team Leader
Mr. Takashi KADOTA, Land Use Plan
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Nobuyuki IJIMA, Hydraulic Geology
Mr. Hisashi OURA, Groundwater Development Plan/Construction Management
Mr. Tsutomu KAMEYAMA, Sewage Plan/Storm Water Drainage Facility Plan I
Mr. Masatoshi Seno, Sewage Plan/Storm Water Drainage Facility Plan II
Mr. Gaku ADACHI, Coordinator I

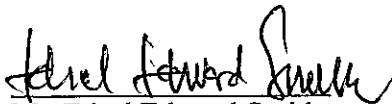
Minutes of Meetings on

2nd Working Group for

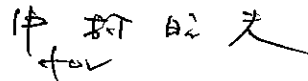
**JICA / The Master Plan Study on Urban Facilities Restoration and
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Monrovia

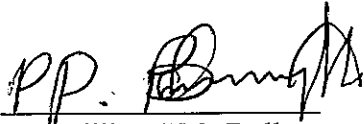
December 30, 2008



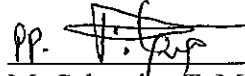
Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



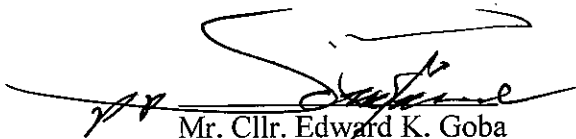
Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



Mr. William V.S. Bull
Deputy Minister
Ministry of Foreign Affairs
The Republic of Liberia



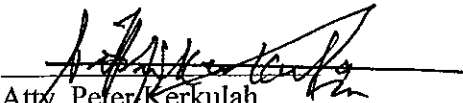
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia



Mr. Cllr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Reporting and Discussions

Mr. Nakamura, Representative of the Team, reported i) sub-contracts, ii) Capacity Development Program (Draft), iii) Progress in data/information Collection.

Then following issues are discussed and confirmed.

1) The participants agreed upon the results of bidding for sub-contracts after the explanation made by Mr. Nakamura that local consultant/firms were fairly selected by the JICA Study Team based on the JICA regulation.

The Liberian side requested JICA Study Team so that the counterpart organizations shall be further involved in the implementation of sub-contracts as in the course of the Study.

2) Contents of capacity development program (draft) were basically agreed upon and JICA Study Team requested Liberian side to propose additional topics, if any.

Mr. Nakamura, Representative of the Team, also explained the identification of counterpart list for detailed discussion and corporation work.

1) The Liberian side agreed the nomination of counterparts and to complete the list within few days. LIS representative, the observer of the Study, requested to the Team to provide counterpart staffs for the Study.

4. Schedule of next Working Group

All the members of the working group agreed to have the next (3rd) working group as follows.

January 20 (Tue.), 2009, 10:00 -12:00 at Minister Office of MoPW

5. Others

Mr. Nakamura (Deputy Team Leader), informed that he would leave for Japan on 31 Dec., 2008 and Mr. Fujiyama would be assigned as Main Contact Person of the JICA Mission in Monrovia.

[End]

Annex I

List of Participants of the 2nd Working Group Meeting for The Master Plan Study on Urban Facilities Restoration and Improvement In Monrovia in the Republic of Liberia

December 30, 2008

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service

MoFA

Mr. B. Elias Shoniyin, Assistant Minister

MoT

Mr. Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport

MoLME

Mr. Jefferson W. Wylie, Assistant Director of LHS

Mr. Naghaniel K. Cloco, Assistant Director of LCS

MCC

Atty. peter Kerkulah, Executive Assistant to the Mayor

Mr. Othello S. Tarbah, Program Officer

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

LISGIS

Mr. Johnson Q. Kei, Deputy Director General

Mr. Thomas Davis, Director of GIS/Cartography

The Study Team

Mr. Akio NAKAMURA, Deputy Team Leader

Mr. Masazumi ONO, Road Plan/Road Maintenance Plan

Mr. Takashi KADOTA, Land Use Plan

Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design

Mr. Nobuyuki IJIMA, Hydraulic Geology

Mr. Tsutomu KAMEYAMA, Sewage Plan/Storm Water Drainage Facility Plan I

Mr. Gaku ADACHI, Coordinator I

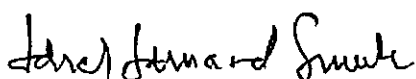
Minutes of Meetings on

3rd Working Group for

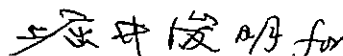
JICA / The Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia in the Republic of Liberia

Monrovia

January 21, 2009



Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



Mr. B. Elias Shoniyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



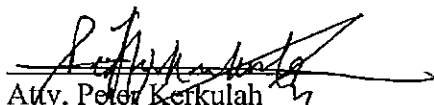
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia



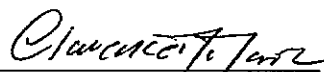
Cllr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia

pp: Jefferson W. Wylie (Asst. Director/LHS)

Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Reporting and Discussions

Each team member in charge of survey work and capacity development program, reported progress of survey activities as follows;

1) Survey Work

a) Road & Land Use Sector

- Person Trip Interview Survey (Mr. Ono)
- Traffic Survey (Mr. Ono)
- Road Inventory Survey (Mr. Ono)
- Land Use Survey (Mr. Horii)

b) Water Sector

- Public Awareness Survey (Mr. Fujiyama)
- Groundwater Investigation (Mr. Iijima)
- Water Quality Analysis Survey (Mr. Onozato)
- Well Inventory Survey (Mr. Iijima)

Liberian side understood and agreed upon about progress, purposes, contents and time schedule of survey works.

2) Capacity Development Program

JICA Study Team introduced Mini-Workshop to be conducted in 30th January 2009 as Capacity Development Program. The Liberian side agreed upon the schedule and the contents of Capacity Development Program, which consists of the Utilization of Well Inventory Survey and the Environment Consideration.

4. Tentative Schedule of next Working Group

All the members of the working group agreed to have the next (4th) working group as follows.

February 12 (Thursday), 2009, 10:00 -12:00 at Minister Office of MoPW

5. Others

Mr. Fujiyama (Successor of Representative of JICA Study Team), informed that Mr. Horii would be assigned as Main Contact Person of the JICA Mission in Monrovia from 21 January 2009.

[End]

Annex I

List of Participants of the 3rd Working Group Meeting for The Master Plan Study on Urban Facilities Restoration and Improvement In Monrovia in the Republic of Liberia

January 21, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service

Mr. Elijah Karnley, Urban and Community Planning Specialist

MoPEA

Mr. Browne N. Pouh, Director of Infrastructure

MoT

Mr. Cllr. Edward K. Goba

MoLME

Mr. Jefferson W. Wylie, Assistant Director

Mr. Stephen S. Doe, Special Assistant to the Director Carto Services

MCC

Atty. Peter Kerkulah, Executive Assistant to the Mayor

Mr. Othello S. Tarbah, Program Officer

Mr. Patrick W. Paye, Deputy Director of Zoning

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

EPA

Mr. Ben Karmo

The Study Team

Mr. Toshiaki HORII, Socio Economic Analysis

Mr. Masazumi ONO, Road Plan/Road Maintenance Plan

Mr. Masahiro TAKEUCHI, Water Supply Implementation Plan/ Water Supply Maintenance Plan

Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design

Mr. Tsuyoshi ONOZATO, Water Treatment Facility Design

Mr. Nobuyuki IJIMA, Hydraulic Geology

Mr. Takao FUKUMA, Environment and Social Consideration

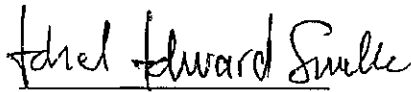
Minutes of Meetings on

4th Working Group for

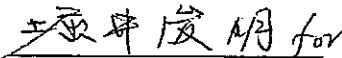
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia


February 13, 2009




Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



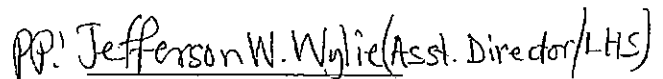
Mr. B. Elias Shoniyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



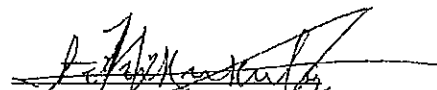
Mr. Sebastian T. Muah
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Ministry of Planning and Economic Affairs
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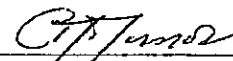
Mr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia

PP: 

Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Progress of the Study

Each team member in charge of survey work reported progress of survey activities as follows;

3-1. Sub-Contracts

- i) Road Sector (Mr. Ono)
- ii) Water Sector (Mr. Oura)

3-2. Working Content and Schedule of Each Specialist

- i) Socio-economic Analysis (Mr. Horii)
- ii) Road Plan (Mr. Ono)
- iii) Groundwater Development Plan (Mr. Oura)

Liberian side understood and agreed upon progress and time schedule of the work activities.

4. Data/Information Collection

Mr. Horii expressed his concern that he would not get any data regarding 2008 Population and Household Census by the middle of February because the responsible Director is not in Liberia.

5. Clarification of the Study Area

Mr. Horii explained that the study area of this study and the mapping work which was conducted by another study team should be expanded based on the new administrative boundary and JICA headquarters would agree upon this change when these working group members have no objections.

Liberian side agreed upon this change. (See Annex II)

6. Tentative Schedule of next Mini Workshop and Working Group

All the members of the working group agreed to have the next meeting as follows;

Mini Workshop: February 26 (Thursday), 10:00 - 12:00

Working Group: March 10 (Tuesday), 10:00 - 12:00

[End]

Annex I

**List of Participants of the 4th Working Group Meeting for
The Master Plan Study on Urban Facilities Restoration and Improvement
In Monrovia in the Republic of Liberia**

February 13, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service

Mr. Elijah Karnley, Urban and Community Planning Specialist

MoT

Mr. Cllr. Edward K. Goba

MoLME

Mr. Jefferson W. Wylie, Assistant Director

MCC

Atty. Peter Kerkulah, Executive Assistant to the Mayor

Mr. Othello S. Tarbah, Program Officer

Mr. Patrick W. Paye, Deputy Director of Zoning

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

The Study Team

Mr. Toshiaki HORII, Socio Economic Analysis

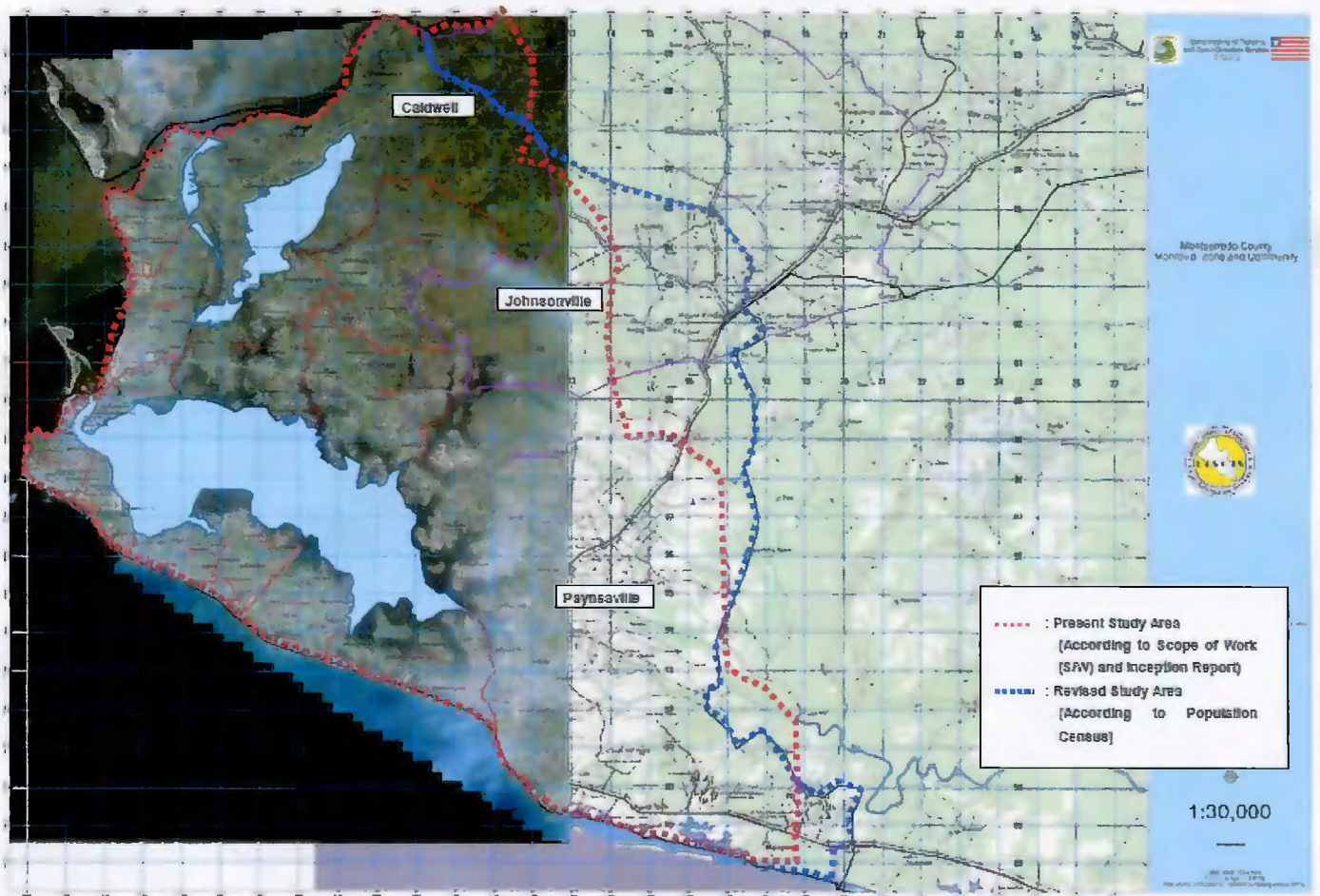
Mr. Masazumi ONO, Road Plan/Road Maintenance Plan

Mr. Keiicji MURAKAMI, Road Facility Design

Mr. Hisashi OURA, Groundwater Development plan/Construction Management

Mr. Atsushi KATO, Coordinator II/GIS I

Annex II



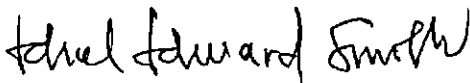
Minutes of Meetings on

5th Working Group for

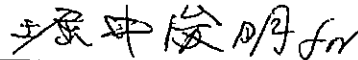
The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

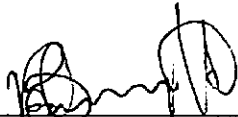
March 10, 2009



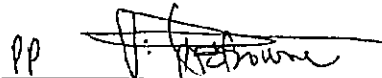
Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



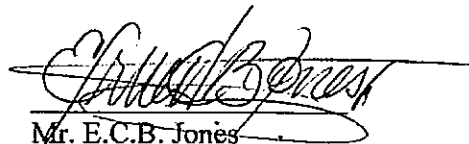
Mr. B. Elias Shoniyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



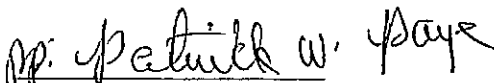
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia




Mr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

The team introduced a new member, Mr. Shuichi YASHIRO who is in charge of Traffic Demand Forecast, and informed that he would stay in Monrovia until the middle of April.

3. Progress of the Study

Each team member reported progress of work activities as follows;

3-1. Field Surveys

- i) Road Sector (Mr. Yashiro)
- ii) Water Sector (Mr. Oura)

3-2. Working Content and Schedule of Each Specialist

- i) Socio-economic Analysis (Mr. Horii)
- ii) Land Use Plan (Mr. Kadota)
- iii) Traffic Demand Forecast (Mr. Yashiro)
- iv) Groundwater Development Plan (Mr. Oura)

Liberian side understood and agreed upon progress and time schedule of the work activities.

4. Schedule and Agenda of next Steering Committee Meeting

All the members of the working group agreed to have the next (2nd) Steering Committee as follows.

Schedule: March 26 (Thursday), 10:00 -12:00 at Minister Office of MoPW

Agenda: see Annex II

Liberian side requested an invitation letter to the members from the team, and the team promised to submit. Moreover, the team informed that 3rd Steering Committee would be held on April 27 or 30, aimed at discussing the Interim Report.

5. Table of Contents of the Interim Report

The team showed the table of contents of the interim report, and informed that the report would be submitted in the beginning of May.

6. Schedule of next Mini Workshop and Working Group

All the members of the working group agreed to have the next meeting as follows;

Mini Workshop: March 24 (Tuesday), 10:00 - 12:00

Working Group: April 16 (Thursday), 10:00 - 12:00

(End)

Annex I

List of Participants of the 5th Working Group Meeting for The Master Plan Study on Urban Facilities Restoration and Improvement In Monrovia in the Republic of Liberia

March 10, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service

MoPEA

Mr. Dargbe Nimley, Active Assistant to the Minister

Mr. Browne N. Pouh, Director of Infrastructure

MoT

Mr. Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport

MoLME

Mr. Stephen S. Doe, Special Assistant to the Director Carto service

MCC

Atty. Peter Kerkulah, Executive Assistant to the Mayor

Mr. Othello S. Tarbah, Program Officer

Mr. Patrick W. Paye, Deputy Director of Zoning

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

LISGIS

Ms. Juanita Yeayea Dunna, Assistant Director, GIS/Cartography

Mr. James T. Kekula

The Study Team

Mr. Toshiaki HORII, Socio Economic Analysis

Mr. Takashi KADOTA, Land Use Plan

Mr. Shuichi YASHIRO, Traffic Demand Forecast

Mr. Hisashi OURA, Groundwater Development plan/Construction Management

Annex II

The Master Plan Study on Urban Facilities restoration and Improvement in Monrovia in the Republic of Liberia

2nd Steering Committee Meeting Agenda (Draft)

Date: Thursday, March 26, 2009

Venue: Ministry of Public Works (MoPW), Minister's office

Time: 10:00 – 12:00

- 1. Opening Remarks** Minister of Public Works

- 2. Introduction**
 - JICA Study Team
 - Liberian side

- 3. Progress of the Study** Mr. Akio NAKAMURA (Deputy Team Leader)

- 4. Work Activity Reporting**

1) Land Use Plan	Mr. Takashi KADOTA
2) Road Facility/ Traffic Condition	Mr. Shuichi YASHIRO
3) Water Supply Plan	Mr. Taketoshi FUJIYAMA
4) Groundwater Development Plan	Mr. Hisashi OURA
5) Urban Development	Mr. Akio NAKAMURA

- 5. Next Steering Committee Meeting and Seminar**

Date: April 27 (Mon.) or April 30 (Thu.)
Agenda: Discussion on Interim Report

- 6. Others**

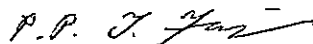
Minutes of Meetings on
6th Working Group for
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

March 16, 2009



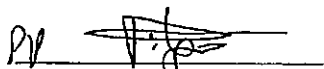
Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



Mr. B. Elias Shoniya
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia



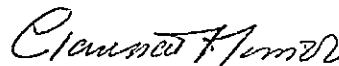
Mr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation



Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Work Activity Reporting

3.1 Survey Work on Water Sector

Two (2) team members, who are in charge of the following survey work, reported the progress and results of survey.

- Exploratory Drilling (Mr. Oura)
- Public Awareness Survey (Mr. Fujiyama)

Liberian side understood and agreed upon about progress, results of survey works.

3.2 Capacity Development Program

JICA Study Team introduced programs on the next (4th) Mini-Workshop to be conducted in 1st May 2009 as Capacity Development Program. The Liberian side agreed upon the contents of Capacity Development Program, which are composed of the Traffic Survey for Urban Transport Planning & Utilization of Road Inventory Survey Data, and Groundwater Development Plan.

4. Tentative Schedule of Next Working Group and Mini-Workshop

All the members of the working group agreed to have the next (7th) working group and the 4th Mini-Workshop as follows:

- 7th working group: May 19, 2009, Tuesday 10:00 -12:00 at the Minister Office of MoPW
- 4th Mini-Workshop: May 1, 2009, Friday 10:00- 12:00 at the Manpower Training Office of MoPW

5. Others

All the members of the working group agreed to have the Interim Report Meeting and 1st Seminar.

- Interim Report Meeting: April 28 2009
- 1st Seminar: April 29, 2009

[End]

Edsel

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2

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Annex I

List of Participants of the 6th Working Group Meeting for
The Master Plan Study on Urban Facilities Restoration and Improvement
In Monrovia in the Republic of Liberia

April 16, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service
Mr. Christian Herbert, Transport Economist

MoPEA

Mr. Browne N. Pouh, Director of Infrastructure
Mr. Sebastian T. Muah, Deputy Minister for Economic Affairs

MoT

Mr. Cllr. Edward K. Goba

MCC

Patience Somah, Receptionist Mayor's Office

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

MoHSW

Mr. Philip Kpanoh,

LIGIS

Mr. Isaac M. Wangangi, Census Cartography GIS Advisor
Mr. Robert K. Johnson, Assistant Director Cartography
Mr. Thomas Davis, GIS Assistant

JICA Study Team

Mr. Masahiro TAKEUCHI, Water Supply Implementation Plan/ Water Supply Maintenance Plan
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Hisashi OURA, Groundwater Development Plan/Construction Management
Mr. Ko Takeuchi, Coordinator

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JWW

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BES
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Minutes of Meetings on
7th Working Group for
The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

June 4, 2009



Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia


for



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



Mr. B. Elias Shoniyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia

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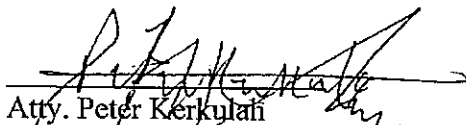
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia




Cllr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulahi
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia

pp. 

Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

The team introduced a new member, Mr. Tsutom KAMEYAMA (2nd assignment) who is in charge of Drainage Planning and informed that he would stay in Monrovia until the last of June.

3. Work activity reporting

Each team member reported progress of work activities as follows;

3.1 Road planning (Mr. Ono)

Future demand forecasting/ Future direction of road and transport/
Road network development plan/ Bridge and culvert development plan/
Traffic safety and management plan/ Bus terminal and stop
development plan

3.2 Groundwater Development Plan (Mr. Oura)

Progress of the work/ Exploratory well drilling and pumping test/ Water
quality of exploratory wells/ Oil contamination survey results/ Rough
estimation of water balance and groundwater potential

3.3 Drainage Planning (Mr. Kameyama)

Target of the work and schedule/ Support request to MPW

Liberian side understood and agreed upon progress and time schedule of the work activities.

4. Schedule of next Mini Workshop and Working Group

All the members of the working group agreed to have the next meeting as follows;

Mini Workshop: Middle of July

Theme; Road Design and Maintenance/Water Quality of Study Area

Working Group Meeting: Middle of July

[End]

Handwritten signatures and initials:
JMK
C.Y
2
Smith
BEES

Annex I

**List of Participants of the 7th Working Group Meeting for
The Master Plan Study on Urban Facilities Restoration and Improvement
In Monrovia in the Republic of Liberia**

June 4, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service
Sundiata Juaseinai, Civil Engineer
Harriett M. Peal, Engineer
Mr. Elijah Karnley, Consultant

MoPEA

Mr. Browne N. Pouh, Director of Infrastructure
Mr. Brian Simmons, Director

MoT

Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport
Mr. William M.N. Gaye, Sr., Director of Inspection

MoLME

Mr. Stephen S. Doe, Special Assistant to the Director Carto service

LWSC

Mr. Clarence M. Momoh, Technical Services Manager
N. Hun. B. Tulay, Managing Director

LISGIS

Robert K. Johnson, Assistant Director, Cartography

MoFA

Chupee M. Bernah, Research Analyst
Irene N. Dougma, Research Assistant

The JICA Study Team

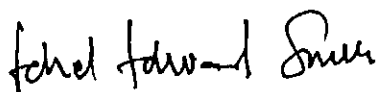
Mr. Masazumi ONO, Road Plan/Road Maintenance Plan
Mr. Tsutomu KAMEYAME, Sewage Plan/Storm Water Drainage
Mr. Hisashi OURA, Groundwater Development plan/Construction Management

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BESS

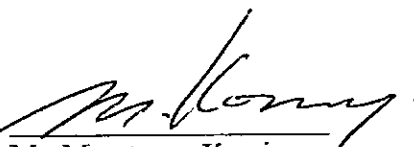
Minutes of Meetings on
8th Working Group and Field Workshop for
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

July 14 and 15, 2009



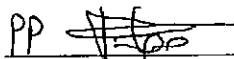
Mr. Edsel Edward Smith
Assistant Minister/Technical Services
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)



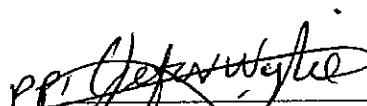
Mr. B. Elias Shoniyin
Assistant Minister
Ministry of Foreign Affairs
The Republic of Liberia



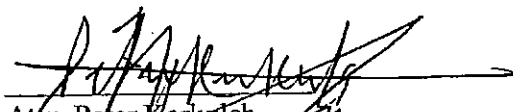
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia



Cllr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants for 8th Working Group: See Annex I
Participants for Field Workshop: See Annex II

1. Opening remarks

The Meeting started with opening remarks by Mr. Edsel Edward Smith, Consultant Special Project, MoPW, on behalf of Minister of Public Works.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Introduction of the future planning

Mr. Komiya, Leader of the Team, introduced an agenda of the 8th Working Group Meeting, which included the main themes of future planning on land use & urban, road and water sector.

Three (3) team members, who are in charge of following tasks presented drafts of future planning on three (3) sectors, and one team member reported the component of satellite water supply system which is under construction and its current progress.

- Land Use & Urban Sector (Mr. Nakamura)
- Road Sector (Mr. Mr. Murakami)
- Water Sector (Mr. Fujiyama)
- Construction of satellite water supply system (Mr. Oyamada)

Liberian side understood drafts of future planning.

4. Boundary of the Ramsar Convention

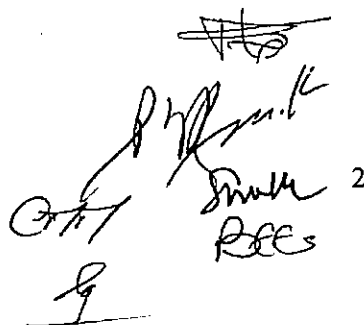
After four (4) presentations by team members above, Mr. Komiya was concerned about the boundary of the Ramsar Convention for future land use, and proposed to change boundary for avoiding resettlement in parts of Greater Monrovia, especially the Peace Island and Pagos Island.

Liberia side understood the current issues of land use with the Ramsar Convention and expressed to verify if the boundary of the Ramsar Convention can be changed by the Forest Development Authority (FDA) and the Environment Protection Agency (EPA). The team agreed upon about their expression.

5. Urban Area

Concept of Urbanization Promotion Area (CUPA) and Urbanization Control Area (UCA) were basically agreed upon the proposed exclusion of some swamp by area of inferior condition for living designated as Ramsar site from CUPA was recognized in principle.

JWW

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6. Preparation Works for Project Implementation

It was confirmed that the Liberian side would immediately shoulder the expected preparation works including site clearance on adoption of the project for project implementation.

7. Request Letter for Grant Aid Project

Mr. Komiya also introduced procedure of the request letters for grant aid projects and expressed to assist the implementation organizations for short term projects. Mr. Komiya suggested that donor coordination of implementation organization is very important to avoid duplication between the projects.

Liberian side understood about donor coordination, expressed strong intention to request grant aid projects on road and water sectors to Japanese Government.

8. Time Schedule of Implementation of Grant Aid

Mr. N. Hun-Bu Tulay, Managing Director of LWSC, was concerned about the time period taken to implement the Japanese Grant Aid Projects.

Mr. Komiya explained that it would generally take a couple of years to go through some process such as budget allocation, basic design, tendering document preparation, etc.

Liberian side understood about the time schedule and grant aid process.

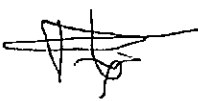
9. Tentative Schedule of Next Working Group

All the members of the working group agreed to hold the next (9th) working group as follows:

- 9th working group: The end of August 2009 at the Ministry of Public Work

[End]

JNW


A. Komiya
CAH Sumitomo³
BCEC
G

Annex I

List of Participants of the 8th Working Group Meeting for
The Master Plan Study on Urban Facilities Restoration and Improvement
in Monrovia in the Republic of Liberia

July 14, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service
Sundiata Juasemai, Civil Engineer
Harriett M. Peal, Civil Engineer
Elijah Kamley, Consultant
Blamo Tugbah, Statistician/Transport Engineer/PPB

MoPEA

D. Sleh Gurley, Sr., Director
Browne N. Pough, Director
Brian Simmons, Director

MoT

Edward Z. B. Yormie, Director

MoFA

Irene N. Doegma, Research Assistant
Chupee M. Bemah, Research Analyst

MoLME

Maiway Luo-I, Manager/Awareness & Ecotourism
Nathaniel K. Cisco, Sr., Assistant Director/LCS
Stephen S. Doe, Special Assistant to the Director/LCS

LWSC

Clarence M. Momoh, Technical Service Manager

MCC

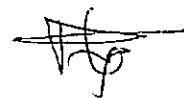
Patrick W. Paye, Deputy Director/Zoning
Philip J. Beoh, Deputy Inspector General

The JICA Study Team

Mr. Masatsugu KOMIYA, Team Leader/Restoration and Improvement Plan
Mr. Akio NAKAMURA, Deputy Team Leader/Urban Plan
Mr. Keiichi MURAKAMI, Road Facility Design
Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Seiichi OYAMADA, Construction Planning/Cost Estimate

JWV

Edsel E. Smith
Sundiata Juasemai
Harriett M. Peal
Elijah Kamley
Blamo Tugbah



Annex II

**List of Participants of the Field Workshop for
The Master Plan Study on Urban Facilities Restoration and Improvement
in Monrovia in the Republic of Liberia**

July 15, 2009

MoPW

Sundiata Juasemai, Civil Engineer
A. Rolamo Tugbeh, Statistician/Transport Engineer Div.
Elijah Kamley, Consultant

MoPEA

D. Sleh Gurley, Sr., Director
Browne N. Pough, Director
Brian Simmons, Director

MoT

Edward Z. B. Yormie, Director

MoFA

Irene N. Doegma, Research Assistant
Chupee M. Bemah, Research Analyst

MoLME

Stephen S. Doe, Special Assistant to the Director/LCS

LWSC

Jusu S. Dunor, Cartographer

MCC

Patrick W. Paye, Deputy Director/Zoning

EPA

Cecelia Kollie, Conservation Coordinator

FDA

Miaway Luo-I, Manager/Awareness &Eco.

The JICA Study Team

Mr. Masatsugu KOMIYA, Team Leader/Restoration and Improvement Plan
Mr. Akio NAKAMURA, Deputy Team Leader/

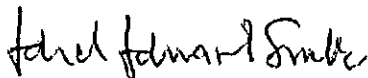
Jmw

[Handwritten signatures and initials]
5
Boes

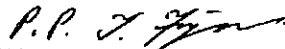
Minutes of Meetings on
9th Working Group for
JICA / The Master Plan Study on Urban Facilities Restoration and
Improvement in Monrovia in the Republic of Liberia

Monrovia

August 31, 2009



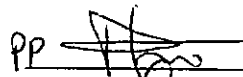
Mr. Edsel Edward Smith
Consultant Special Project
Ministry of Public Works
The Republic of Liberia



Mr. Masatsugu Komiya
Leader of Study Team
Japan International Cooperation Agency
(JICA)




Mr. Elias Shoniyin
Assisting Minister
Ministry of Foreign Affairs
The Republic of Liberia



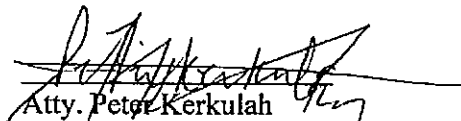
Mr. Sebastian T. Muah
Deputy Minister
Ministry of Planning and Economic Affairs
The Republic of Liberia



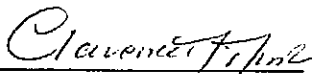
Mr. Cllr. Edward K. Goba
Deputy Minister for Land & Rail Transport
Ministry of Transport
The Republic of Liberia



Mr. E.C.B. Jones
Deputy Minister of Operation
Ministry of Land, Mines and Energy
The Republic of Liberia



Atty. Peter Kerkulah
Executive Assistant to the Mayor
Monrovia City Corporation
The Republic of Liberia



Mr. Clarence M. Momoh
Technical Service Manager
Liberia Water and Sewer Corporation

Participants: See Annex I

1. Opening remarks

The Meeting started with opening remarks from Mr. Edsel Edward Smith, Assistant Minister/Technical Services, MoPW, on behalf of Minister of Public Works. At the same time, he did regret the burglar trouble that JICA study team had in August.

2. Introduction of the members

JICA Study Team (hereinafter referred to as the Team) and Liberian side introduced each member individually.

3. Introduction of the future projects

Two (2) team members presented drafts of future projects as follows:

- Future projects on road sector (Mr. Ono)
- Future projects on water supply sector (Mr. Fujiyama)

4. Questions / comments to presentation

Liberian side understood about drafts of future projects.

In addition, Liberian side questioned and commented as follows:

[Road sector]

- Environmental impact on the project requested to the Japanese side.
- Establishment of regulation, etc is required on air pollution issue.

Study team explained that EIA study which will be operated from September to November 2009 and environmental impact will be clarified through EIA study. Study team agreed to the comments on establishment of environment regulation, and explained that renewal car is one of the options as regulation.

[Water sector]

- Water consumption rate for demand estimates.
- Basis on maximum well depth of 70m for supplemental exploratory well drilling.

Study team explained that water demand was estimated in 16gcd for a house connection and 6gcd for a kiosk. In addition, the study team explained that supplemental exploratory well drilling of 70m was proposed based on the groundwater analysis in this MP study, and added that the results of exploratory well drilling conducted in Paynesville zone through the Monrovia Expansion and Rehabilitation of Three County Capitals might also be reflected to decide drilling depth.

5. Supplemental study

Study team informed Liberian side about operation of supplemental study such as EIA on The Project for Improvement of Johnson Street Bridge, exploratory well drilling on The Project for Emergency Development of

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Water Supply System at Paynesville in Greater Monrovia and O&M monitoring work for pilot project.

Liberian side understood about supplemental study.

6. Schedule of 4th steering committee meeting and 2nd seminar

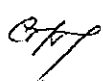

Study team introduced the schedule of 4th steering committee meeting and 2nd seminar. All the members agreed to the following schedule:

- 4th steering committee meeting: 28 September 2009
- 2nd seminar: 29 September 2009

[End]

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Annex I

**List of Participants of the 9th Working Group Meeting for
The Master Plan Study on Urban Facilities Restoration and Improvement
In Monrovia in the Republic of Liberia**

August 31, 2009

MoPW

Mr. Edsel Edward Smith, Assistant Minister for Technical Service
Mr. Blamo Tugbeh, Supervisor of Statistics
Miss. Harriett M. Peal, Civil Engineer

MoPEA

Mr. Browne N. Pouh, Director of Infrastructure
Mr. D. Sleh Gurley, Sr., Director
Mr. Brian Simmons, Director

MoT

Mr. Cllr. Edward K. Goba, Deputy Minister for Land & Rail Transport

MoLME

Mr. Jefferson W. Wylie, Director of LHS
Mr. Naghanial K. Cisco, Assistant Director of LCS
Mr. Stephen S. Doe, Special Assistant to Director/LCS

LWSC

Mr. Clarence M. Momoh, Technical Services Manager

The Study Team

Mr. Taketoshi FUJIYAMA, Water Supply Piping Facility Design
Mr. Masazumi ONO, Road Plan/Road Maintenance Plan

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APPENDIX-4

RECORD OF CAPACITY DEVELOPMENT

Appendix-4 Record of Capacity Development

1st Mini-Workshop on 29th January, 2009	
1. Utilization of Well Inventory Survey- Mr. Nobuyuki IJIMA	
2. Environment Consideration- Mr. Takao FUKUMA	
Participants Name	Position
Ministry of Public Works	
Josiah K. Wiah	Technical Assistant
Nicholas F.M. Faryombo	County Coordinator
Elijah Karnley	Specialist
Emmanuel S. Nimely	Director / Transport & Engineering Division
Harriett M. Peal	Prof. Engineer
Ministry of Planning and Economic Affairs	
Browne N. Pouh	Director, Infrastructure
Ministry of Transport	
Cllr. Edward K. Goba	Dep. Minister
Edward Yormie	Director
Monrovia City Corporation	
Othello S. Tarbah	Program Officer
Patrick W. Paye	Dep. Director/Zoning
Liberia Water and Sewer Corporation	
Joe S. Molue	Transmission and Distribution, Engineering
Liberia Institute of Statistics & Geo-Information services	
Benjamin Karmorh, Jr.	Manager, Monitoring, Assessment & Conservation

2nd Mini-Workshop on 3rd March, 2009	
1. Land Use Plan- Mr. Takashi KADOTA	
2. Traffic Demand Forecast (Results of Traffic Demand Survey)- Syuichi YASHIRO	
Participants Name	Position
Ministry of Public Works	
Josiah K. Wiah	Technical Assistant
Nicholas F.M. Faryombo	County Coordinator
Elijah Karnley	Specialist
Emmanuel S. Nimely	Director / Transport & Engineering Division
Harriett M. Peal	Prof. Engineer
Ministry of Planning and Economic Affairs	
Browne N. Pouh	Director, Infrastructure
Ministry of Transport	
Cllr. Edward K. Goba	Dep. Minister
Edward Yormie	Director
Monrovia City Corporation	
Othello S. Tarbah	Program Officer
Patrick W. Paye	Dep. Director/Zoning
Liberia Water and Sewer Corporation	
Joe S. Molue	Transmission and Distribution, Engineering
Liberia Institute of Statistics & Geo-Information services	
Benjamin Karmorh, Jr.	Manager, Monitoring, Assessment & Conservation

3rd Mini-Workshop on 30th March, 2009	
1. Socio Economic Analysis- Mr. Toshiaki HORII	
2. Traffic Surveys- Mr. Shuichi YASHIRO	
Participants Name	Position
Ministry of Public Works	
G. Lahaison Waritay	Director
Elijah Karnley	Consultant
Ministry of Foreign Affairs	
Chupee M. Bemah	Research Analyst
Clohmie F. Fallah	Research Analyst
Ministry of Planning and Economic Affairs	
Mr. Browne N. Pouh	Director of Infrastructure
G. Jerome Kuoh	Sr. Planning Officer
Ministry of Transport	
Cllr. Edward K. Goba	Deputy Minister for Land & Rail Transport
Monrovia City Corporation	
Othello S. Tarbah	Program Director
Ministry of Lands Mines and Energy	
Nathaniel K. Cisco, Sr.	Assisting Director/LCS
Stephen S. Doe	Special Assistant to the Director/LCS
National Housing Authority	
Kollie Bombo	Architect/AutoCds Operator
Liberia Water and Sewer Corporation	
Danies G. Glay	Civil Engineer
Jusu S. Dunor	Sr. Asst. Mgr/Com Tech.

4th Mini-Workshop on 13th May, 2009	
1. Future Transportation Demand Forecasting- Mr. Masazumi ONO	
2. Ground Water Development Planning- Mr. Hisashi OOURA	
Participants Name	Position
Ministry of Public Works	
G. Lahaison Waritay	Director
Elijah Karnley	Consultant
Ministry of Foreign Affairs	
Chupee M. Bemah	Research Analyst
Clohmie F. Fallah	Research Analyst
Ministry of Planning and Economic Affairs	
Mr. Browne N. Pouh	Director of Infrastructure
G. Jerome Kuoh	Sr. Planning Officer
Ministry of Transport	
Cllr. Edward K. Goba	Deputy Minister for Land & Rail Transport
Monrovia City Corporation	
Othello S. Tarbah	Program Director
Ministry of Lands Mines and Energy	
Nathaniel K. Cisco, Sr.	Assisting Director/LCS
Stephen S. Doe	Special Assistant to the Director/LCS
National Housing Authority	
Kollie Bombo	Architect/AutoCds Operator
Liberia Water and Sewer Corporation	
Danies G. Glay	Civil Engineer
Jusu S. Dunor	Sr. Asst. Mgr/Com Tech.

5th Mini-Workshop on 29th June, 2009	
1. Drainage System in Japan- Mr. Tsutomu KAMEYAMA	
Participants Name	Position
Ministry of Public Works	
A. Blamo Togbeh	Statistician
John P. Doeyou	Asst. Director for Zoning
Sundiata S. Juasemai	Civil Engineer
Ministry of Foreign Affairs	
Chupee M. Bemah	Research Analyst
Irene N. Doegma	Research Assistant
Ministry of Planning and Economic Affairs	
Mr. Browne N. Pouh	Director of Infrastructure
Brian Simmons	Sr. Planning Officer
Liberia Water and Sewer Corporation	
Amos Z. Koigbli	Sanitary Engineer
Christian Yeakula	Project Engineer

6th Mini-Workshop on, July 10, 2009	
1. Water Quality Control- Mr. Takeshi ONOZATO	
Participants Name	Position
Ministry of Public Works	
Elijah Karnley	Consultant
Sundiata S. Juasemai	Civil Engineer
Ministry of Planning and Economic Affairs	
Brown N. Pouh	Director
Ministry of Transport	
Cllr. Edward K. Goba	Deputy Minister for Land & Rail
Monrovia City Corporation	
Patrick W. Paye	Deputy Director/Zoning
Ministry of Foreign Affairs	
Chupee M. Bemah	Research Analyst
Ministry of Lands Mines & Energy	
Stephen S. Doe	Special Assistant to the Director/LCS
Liberia Water and Sewer Corporation	
Amos Z. Koigbli	Sanitary Engineer
Christian Yeakula	Project Engineer

7th Mini-Workshop on 10th August, 2009	
1. Road Maintenance- Mr. Keiichi MURAKAMI	
Participants Name	Position
Ministry of Public Works	
Sundiata S. Juasemai	Civil Engineer
Ministry of Foreign Affairs	
Chupee M. Bemah	Research Analyst
Irine Dorsame	Research Analyst
Ministry of Planning and Economic Affairs	
Mr. Browne N. Pouh	Director of Infrastructure
D. Sleh Gurley Sr.	Director
Brian Simmons	Director

Field-Workshop on, July 15, 2009	
JICA STUDY TEAM: Masatsugu KOMIYA-Team Leader	
Akio NAKAMURA- Deputy Team Leader	
Participants Name	Position
Ministry of Public Works	
Elijah Karnley	Consultant
Sundiata S. Juasemai	Civil Engineer
A. Blamo Togbeh	Statistician/Transport Engineer Div.
Ministry of Planning and Economic Affairs	
D. Sleh Gurley, Sr4.	Director
Brown N. Pouh	Director
Brian Simmons, Director	Director
Ministry of Transport	
Edward Z. B. Yormie	Director
Monrovia City Corporation	
Patrick W. Paye	Deputy Director/Zoning
Ministry of Foreign Affairs	
Irine N. Doegma	Research Assistant
Chupee M. Bemah	Research Analyst
Ministry of Lands Mines & Energy	
Stephen S. Doe	Special Assistant to the Director/LCS
Liberia Water and Sewer Corporation	
Jusu S. Dunor	Cartographer
EPA	
Cecelia Kollie	Conservation Coordinator
FDA	
Miaway Luo-I	Manager/Awareness & Eco.

APPENDIX-5

RESULT OF ROAD AND BRIDGE INVENTORY SURVEY

AEP CONSULTANTS, INC.

FINAL REPORT OF THE PHASES

**FOR THE SUCCESSFUL IMPLEMENTATION OF THE CONTRACT
"MASTER PLAN STUDY ON URBAN FACILITIES RESTORATION AND
IMPROVEMENT IN MONROVIA"**

*THE MASTER PLAN STUDY ON URBAN FACILITIES
RESTORATION AND IMPROVEMENT IN MONROVIA*

*PROJECT IN
ROAD/BRIDGE INVENTORY SURVEY*

CLIENT: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PREPARED BY:

Engr. Adam P. Konneh Project Coordinator and Assistant Project Manager
AEP Consultants Dillon Building (2nd Floor) King Sao Bossa (Front) Street, Monrovia-Liberia

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 - i. PLANNING
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 - v. DATA COLLECTION AND PROCESSING
- 6. SCOPE OF WORK**
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3. INTRODUCTION/ BACKGROUND

i. GENERAL

This report documents the day to day activities carried out by AEP Consultants for the successful implementation of studies that form part of the Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia project, Republic of Liberia.

The project was initiated upon the request of the Government of Liberia to the Government of Japan to conduct the Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia so as to develop a 10(ten) -year master plan including 5(five) years restoration plan on urban facilities, and to carry out relevant transfer of technology to Liberian.

Accordingly, Yachiyo Engineering CO. Ltd (YEC) and Katahira & Engineers International (KEI) made up of a study team, hereinafter referred to as the Japan International Cooperation Agency (JICA), an official agency responsible for the technical implementation and cooperation of programs of the Government of Japan was given the mandate to undertake the master plan study. JICA subsequently contracted the AEP Consultants of Liberia for the implementation.

The methodology employed for the implementation of this project consists of four stages as follows:

1. The first stage covered meetings and strategic designs and plans.
2. The second stage covered the training of surveyors which was carried out in groups with respect to their areas of survey that were scheduled for specific dates as contained in the details report.
3. The third stage covered dispatching of surveyors to their various areas of assignment for the survey
4. The last stage has to do with the collection and processing of data and finally submission of survey report.

The information contained in this report is based on details of data collected from the site surveys which preceded an intensive three-day training that covered but not limited to ROAD AND BRIDGE INVENTORY SURVEY.

The survey project staff is as follows:

1. Project Manager----- Sylvanus O'Connor
2. Project Coordinator and supervisor Road & Bridge Inventory Survey ---- Adam Konneh

ii. SPECIFICS

ROAD & BRIDGE INVENTORY SURVEY

The Roads and Bridges Inventory Survey covered nineteen (19) roads in and around Monrovia. The roads were classified into seven (7) Primary Roads and twelve (12) Secondary Roads. Initially, seven (7) bridges labeled from A-G were ear-marked for the Bridge Inventory Survey but during the survey, other bridges were discovered and assessed.

The Roads and Bridges Inventory Survey data was collected with regard to the present condition of the roads and bridges. This survey was carried out by twenty (20) engineers and trained civil engineering students within fifteen (15) calendar days.

The roads were divided into sections, each 500m long; except where there were some peculiar prevailing circumstances, as regards change in pavement or other important condition that contradicts the section particulars.

Details about the carriageway width, median strip, shoulder(side walk), including the entire cross-sectional platform, right of way, type of pavement, embankment and nature of terrain were all assessed and recorded for each section. All the roads that were surveyed were transformed into roads network layout by using the GPS equipment.

The conditions of the bridges were all recorded and the GPS was also used to collect the actual global latitude and longitude locations of the bridges. Digital photos were also taken for the overall view, side view and some damaged point of the bridges. See appendix.

A. PRIMARY ROADS

<u>LOCATION PRIMARY ROADS</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>DATE OF COMPLETION</u>
1. Tubman Blvd.	UN Drive/ Bye-pass	ELWA Junction	Friday, Feb. 13,2009
2. Johnson/UN Drive	Broad Street	St. Paul Bridge	Tuesday, Feb. 17,2009
3. RIA Highway	ELWA Junction	Gbengbar's Town	Tuesday, Feb.10,2009
4. Somalia Drive	Free Port	Red Light	Tuesday, Feb.10,2009
5. Kakata Highway	Red Light	Mount Barclay	Thursday, Feb. 5,2009
6. Bye-Pass/Broad St.	UN Drive/Byepass	Broad/Neton St.	Thursday Feb. 17,2009
7. UN Drive/Water St.	UN Drive/Byepass	End of Water St.	Monday, Feb. 9,2009

B. SECONDARY ROADS

<u>LOCATION SECONDARY ROADS</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>DATE OF COMPLETION</u>
8. Caldwell Road	UN Drive	End of Caldwell	Thursday, Feb.26,2009
9. Barnesville Road	Somalia Drive	Kaibah/Caldwell	Friday, Feb. 6,2009
10. Johnsonville Road	Dry Rice Market	Mount Barclay	Monday, Feb. 9,2009
11. Rehab-Duport Road	RIA Highway	Duport Road Junction	Friday, Feb.13,2009
12. SKD Boulevard	Tubman Blvd	77nd/ Somalia Drive	Tuesday, Feb. 10,2009
13. Fiamah/Mataidi Road	20-Street	Tubman Blvd Vamuma	Friday, Feb. 13,2009
14. Congo Town back Rd	Tubman Blvd	RIA/Sport complex	Monday, Feb. 9,2009
15. Pipe Line Road	Red Light	Johnsonville	Monday, Feb. 16,2009
16. Jamaica Road	Stockton Creek/Somalia	Caldwell/Duala	Wednesday, Feb.18,2009
17. Jallah Town Road	Bye-pass	Plunker Russell/12-street	Thursday Feb.5,2009
18. New Georgia Road	Somalia Drive	Barnersville Estate	Tuesday Feb.17,2009
19. Old Road	Kanado/Tubman Blvd	Nigeria House	Monday, Feb. 9,2009

A. BRIDGES

<u>NAME OF BRIDGES</u>	<u>TYPES</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DATE OF COMPLETION</u>
A. Tucker Johnson St.	R/	10 ⁰ 48.137	06 ⁰ 19.317	Thursday, Feb.19,2009
B. ST. Paul Bridge	R/	10 ⁰ 47.02	06 ⁰ 23.68	Thursday, Feb.19,2009
C. STOCKTON CREEK Bridge	R/C	10 ⁰ 46.843	06 ⁰ 20.363	Thursday, Feb.19,2009
D. DOUBLE BRIDGE	R/C	10 ⁰ 43.688	06 ⁰ 18.952	Friday, Feb.20,2009
E. CALDWELL BRIDGE	R/C	10 ⁰ 46.77	06 ⁰ 22.36	Friday, Feb.20,2009
F. Johnsonville Bridge	R/C	10 ⁰ 39.87	06 ⁰ 21.39	Friday, Feb.13,2009
G. New Georgia-Barnesville Bridge	M/steel	10 ⁰ 43.65	06 ⁰ 27.03	Wednesday, Feb.18,2009

4. OBJECTIVES

i. GENERAL OBJECTIVES

The general objective of the study is to formulate a 10 year Master Plan for the development of roads within Greater Monrovia and its environs and 5 years Master plan on urban facilities restoration, by taking into consideration the existing land use plan. The formulated Master plan shall cover the road network and public transportation system.

The results or survey data of the study must reveal the existing transportation problems and must offer most of the fundamental facts which are essential in the formulation of economic plans for the improvement of the Monrovia urban transport system.

ii. **SPECIFIC OBJECTIVES**

The data collected on the present existing condition of bridges and roads, which consists of attributes such as, road name, start and end point, particulars of sections, which include but not limited to carriageway width, number of lanes, type of pavement, right of way (without any permanent structure, like buildings), shoulder (side walk), drainage system, topography of the road sides and general structure of the road; as regards the embankment and the general condition of the bridges shall be plotted on a base map by using ArcGis software to formulate well developed roads network system for the Master Plan Study.

The data shall give a clear picture of the nature of the roads and bridges from which general conclusion shall be drawn, and based on these findings the 10 years Master Plan shall be formulated.

5. METHODOLOGY OF IMPLEMENTATION

The methodology employed for the execution of this project included the formation of strategic plans which covered meetings, preparation of master work plan, schedule for the training of surveyors and signing of sub-contracts with the surveyors and supervisors.

The roads were divided among the surveyors (Engineers) with sufficient competence to carry out roads assessment after an intensive training. Weekly survey dates covered Monday through Friday, excluding holidays. The methodology employed consisted of the following:

- i. **PLANNING**
- ii. **TRAINING**
- iii. **PRE-TESTING**
- iv. **SURVEYING**

i. PLANNING

Planning which was the first stage of the strategies employed in the execution of the project, included signing of contracts with the surveyors and supervisors (facilitators) for the master plan study; preparation of work schedule; meetings schedule, training and data collection and reporting schedules. See schedules in the appendix:

ii. TRAINING

The schedule for the training implementation followed the below patterns. It all started with the sequential three days intensive training and testing of one hundred and six surveyors from which eighty-six successful candidates were selected for the actual survey and processing of data for the master plan study.

ROAD/BRIDGE INVENTORY SURVEYORS TRAINING REPORT

Date: January 22, 2009
Time: 10:00am to 4:00pm
Training Course: Road and Bridge Inventory Survey
Tutor/Facilitators: Mr. Adam Konneh (Head) Project Coordinator
Chief Observer: Mr. Masazumi Ono (JICA)
No. of Participants: Thirty -three (33)

ACTIVITIES:

1. The Roads and Bridges Inventory Survey called for 20 engineers but 33 persons participated in the training and most of whom were Civil Engineers, Architectural Engineers, or university engineering students.
2. The Training was conducted successfully by Adam Konneh
3. The data base entry group was part of the training for orientation.
4. Some minor mistakes were noted on the forms for correction and the corrections were made.

iii. PRE-TESTING

ROADS & BRIDGES INVENTORY SURVEY SURVEYORS TRAINING Pre-Testing Report

Date: January 28, 2009
Time: 8:00am to 5:00pm
Pre- Testing: Road and Bridge Inventory Survey
Tutor/Facilitators: Mr. Adam Konneh (Head, project coordinator)
Chief Observer: Mr. Masazumi Ono (JICA)
No. of Participants: One Hundred and six (106)

ACTIVITIES

1. The Roads and Bridges Inventory Survey were carried out on the following roads by 20 surveyors divided into three groups:
Caldwell-Barnersville Road -Group-2, headed by Joseph Collins
Faimah-Mataidi Road- Group-1, headed by Eng. Obeto Neeyee
Johnsonville-Mount Barclay Road- Group-3 headed by Eng. Prince Cassell

Spot checks were made by the Project Coordinator Mr. Adam Konneh who also functioned as the Supervisor. Mr. Konneh maintained regular monitoring of the activities of the surveyors to ensure that the planned activities and procedures established for the survey were followed.

iv. SURVEYING

The actual survey activities for the project were designed by Engineer Adam Konneh (Project Coordinator) in consultation with Mr. Sylvanus O'Connor (Project Manager) with respect to time, scope of work and efficiency.

The number of workers (surveyors) and work load required for 8 working hours were all spelled out in charts. The activity plan was submitted to JICA and approval was obtained for its use.

A contract was signed with each surveyor separately, indicating their responsibilities and time for payment. Each surveyor was given ID cards for the project. See appendix for samples.

V. DATA COLLECTION AND PROCESSING

The survey data collected by the surveyors were delivered by the Survey Coordinator (Supervisor) and submitted to the data base clerk for the processing. The data processing team (data clerks) comprised of six well trained data processors and analyzers contracted to carry out the data input process. The processed data (electronic copy which could not be included in this hard copy report because of its volume) was submitted to JICA.

6. SCOPE OF WORK

i. PHASE-1

PREPATION OF SURVEY FORMS

The scope of work as described in the specific introduction was spelled out in phases. The first phase consists of the actual survey forms preparation and distribution to the surveyors. Thirty-eight thousand (38,000) survey forms were prepared and distributed to surveyors. See sample forms for the survey in appendix.

ii. PHASE-2

THE SURVEY WORK

The second phase covered the day to day survey scope of work done. This is the actual field surveys that led to the gathering of data that have been propounded for the formulation of the Master Plan. See the work done description as followed:

ROADS & BRIDGES INVENTORY SURVEY REPORT

Date: Wednesday, February 4, 2009

Survey: Road and Bridge Inventory Survey

Supervisors: Mr. Adam Konneh (Head, Project Coordinator)

Chief Observer: Mr. Ono (JICA)

No. of surveyors: Twenty (20)

ACTIVITIES:

The Roads and Bridges Inventory Survey were carried out on the following roads by 20 surveyors divided into groups and each of the group was instructed to complete at least 5km daily as described in the contract document:

Caldwell (Road No.8) and Barnersville Road (Road No.9) were surveyed by Group-2, headed by Engr. Joseph Collins

Faimah-Mataidi Road (Road No.13) and Jallah Town Road (Road No.17) were surveyed by Group-1, headed by Engr. Obeto Yeenee

Johnsonville-Mount Barclay Road (Road No.10) was surveyed by Group-3 headed by Prince Cassell.

ROADS & BRIDGES INVENTORY SURVEY SURVEYORS

DATE: Wednesday, February 18, 2009
Survey: Road and Bridge Inventory Survey
Supervisors: Mr. Adam Konneh (Head, Project Coordinator)
Chief Observer: Mr. Ono (JICA)
No. of surveyors: Twenty-eight (20)

ACTIVITIES:

All the completed roads inventory were transformed to road network map system using one GPS, as requested by JICA.

See daily work activities chart as followed

**ROADS AND BRIDGES INVENTORY SURVEY WORK DONE CHART FOR THE IMPLEMENTATION OF MASTER PLAN
STUDY ON URBAN FACILITIES RESTORATION AND IMPROVEMENT IN MONROVIA**

7	ROADS/BRIDGES INVENTORY SURVEY								
ROAD NO	LOCATIONS/NAME	TYPE	ORIGIN	END	NO. OF PERSON	LENGHT	REMARKS/ PROGRESS		
1	TUBMAN BOULEVARD	PRIMARY	UN DIRVE/BYPASS	ELWA JUNCTION	4	11.92KM	COMPLETED FRIDAY, FEB.13,2009		
6	RIA HIGHWAY	PRIMARY	ELWA JUNCTION	GBENGBAR'S TOWN	4	9.1KM	Completed, Monday Feb. 16,2009		
3	JOHNSON/UN DIRVE	PRIMARY	BROAD STREET	ST. PAUL BRIDGE	4	8.98KM	Completed, Monday FEB. 16,2009		
4	SOMALIA DRIVE	PRIMARY	FREE PORT	ELWA JUNCTION	4	13.24KM	COMPLETED TUESDAY, FEB. 10,2009		
5	KAKATA HIGHWAY	PRIMARY	RED LIGHT	MOUNT BARCLAY	4	8.4KM	COMPLETED THURSDAY FEB.5,2009		
2	UN DIRVE-WATER STREET	PRIMARY	UN DIRVE/BYPASS	END OF WATER STREET	4	5.39KM	COMPLETED MONDAY, FEB. 9,2009		
7	BYE PASS-ROAD STREET	PRIMARY	UN DIRVE/BYPASS	BROAD/NETSON STREET	4	3.37KM	COMPLETED TUESDAY, FEB. 10,2009		
8	CALDWELL ROAD	SECONDARY	UN DIRVE	CALDWELL	4	7.33KM	COMPLETED FRIDAY, FEB. 6,2009		
9	Barnersville Estate ROAD	SECONDARY	SOMALIA DRIVE	KABAH-CALDWELL	4	10.84KM	COMPLETED FRIDAY FEB. 6,2009		
10	DRY RICE MARKET-JOHNSONVILLE	SECONDARY	DRY RICE MARKET	MOUNT BARCLAY	4	10.38KM	COMPLETED MONDAY, FEB. 9,2009		
11	REHAB-DUPORT ROAD	SECONDARY	RIA HIGHWAY	DUPORT RD/SOMALIA DRIVE	4	6.82KM	COMPLETED FRIDAY, FEB 13,2009		
12	SKD BOULEVARD	SECONDARY	TUBMAN BLD	77ND/SOMALIA DRIVE	4	4.96KM	COMPLETED TUESDAY, FEB.10,2009		
13	Faimah Road-Mataidi Road	SECONDARY	20 Street	Air Field/Tubman Bid	4	3.81KM	COMPLETED FRIDAY, FEB. 13,2009		
15	Old Road-Nigeria House	SECONDARY	Old Road-Kalnado	OLD ROAD/Nigeria House	4	2.88KM	COMPLETED MONDAY, FEB.		

7. CONCLUSION AND RECOMMENDATIONS

Technically, the results obtained from the survey are authentic for the fact that the survey was conducted by qualified Engineers of Liberia. Almost all the Road and Bridge Inventory Surveyors that were contracted to do the survey are practicing Engineers of the Republic of Liberia.

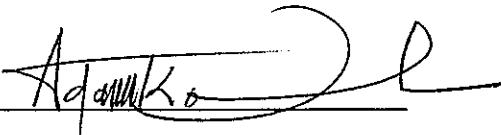
All the results that were gathered from the study have been processed into formatted data chart sheets from which general analysis and conclusion can be established.

The data processors (clerks) are those that had worked with NGOs that undertook similar data collection and processing assignments. The data collected was scrutinized and analyzed by Engr. Adam Konneh (Project Coordinator).

The following recommendations are hereby noted for your consideration in the formulation of the 10 years Master Plan for Urban Facilities Restoration and Improvement in Monrovia and to carry out the relevant transfer of technology to Liberian:

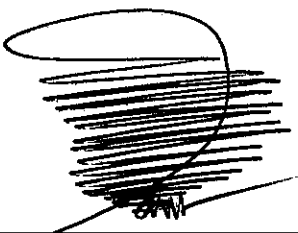
That future study of this nature be given enough time because working facilities in Africa especially Liberia are very limited.

This document had been scrutinized and adjudged by the Project staff as follows:

Signed: 

Mr. Adam P. Konneh (Project Coordinator)

Assistant Project Manager AEP Consultants

Approved: 

Mr. Syvanus O'Connor (Project Manager)

Managing Director/CEO AEP Consultants

8. APPENDIX

Bridge Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Surveyor PRINCE CASSELL
Supervisor ADAM KONNEH

Bridge No	Road Name	Bridge Name	Survey Date	Bridge Location		Bridge Type	Bridge Length (m)	Span Length (m)	Carriageway Width (m)	Sidewalk Width		Condition (Super str.)	Condition (Sub str.)	Remarks
				Latitude	Longitude					right	left			
GABRIEL TUCKER 426,72M														
A	JOHNSON STREET	ST. PAUL BRIDGE	2/18/2009	10°47'02"	6°23'68"	PC	291,080	111,60	14,35	1,80	1,8	GOOD	GOOD	3 span bridge
B	U.N DRIVE	STOCKTON CREEK	2/19/2009	10°46'84.3"	6°20'36.3"	RC	83,500	20,88	9,20	0,90	0,9	FAIR	FAIR	
C	SOMALIA DRIVE	DOUBLE BRIDGE	2/20/2009	10°43'68.8"	6°18'95.2"	RC	50,500	25,25	7,20	1,00	1	BAD	BAD	
D	SOMALIA DRIVE	DOUBLE BRIDGE	2/20/2009	10°43'68.8"	6°18'95.2"	RC	50,500	25,25	7,20	1,00	1	BAD	BAD	rallings missing
E	CALDWELL ROAD	CALDWELL BRIDGE	2/18/2009	10°46'77"	6°22'36"	RC	107,100	4,98	5,10	0,00	1,2	BAD	BAD	
G	NEW GEORGIA BARNERSVILLE	ECONOG BRIDGE	2/18/2009	10°44'96"	6°21'73"	METAL	15,480	15,40	4,70	0,00	0	V. BAD	V. BAD	To replace
H	BARDENSVILLE MT. BARCLAY	JOHNSONVILLE BRIDGE	2/13/2009	10°43'65"	6°27'03"	RC	11,700	5,85	5,30	0,00	0	FAIR	GOOD	
J														
K														
L														
M														
N														
O														
P														
1	BARNERSVILLE TO MT. BARCLAY		2/13/2009	10°40'07"	6°21'1"	RC	7	3,50	8,00	0,00	0	GOOD	GOOD	Incompleted
2	BARNERSVILLE TO MT. BARCLAY		2/13/2009	10°40'74"	6°21'39"	RC	7,4	7,40	3,00	0,00	0	FAIR	FAIR	Wider carriageway
3	MT. BARCLAY TO RED LIGHT		2/13/2009	10°39'58"	6°20'3"	RC	7,000	3,50	13,70	3,35	3,35	FAIR	GOOD	Needs Side rail
4	MT. BARCLAY TO RED LIGHT		2/13/2009	10°39'54"	6°19'81"	RC	3,000	3,00	12,60	2,30	2,6	FAIR	GOOD	Needs Side rail

Condition
 Very Bad: In a dangerous condition; need urgent repair/ rehabilitation
 Bad: Can be used but need substantial repair/maintenance
 Fair: May need minor repair but structurally sound
 Good: Without any substantial problem

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restrtaion and Improvement in Morovia

Surveyer	Manon A. T. Cephas
Supervisor	MR. ADAM KONNEH

Bridge	Road Name	Bridge Location		Bridge RC	Bridge Length	Span Length	Carriageway	Sidewalk Width		Condition	Condition (Sub)	Remarks
		Latitude	Longitude					Right	Left			
A	JOHNSON ST. -FREEPORT	10°48'09.8	6°19'08.7	RC	426.720	85.34	9.14	2.00	2	FAIR	GOOD	

Pictures

Overall View



Side View



Damaged Part (Left side)

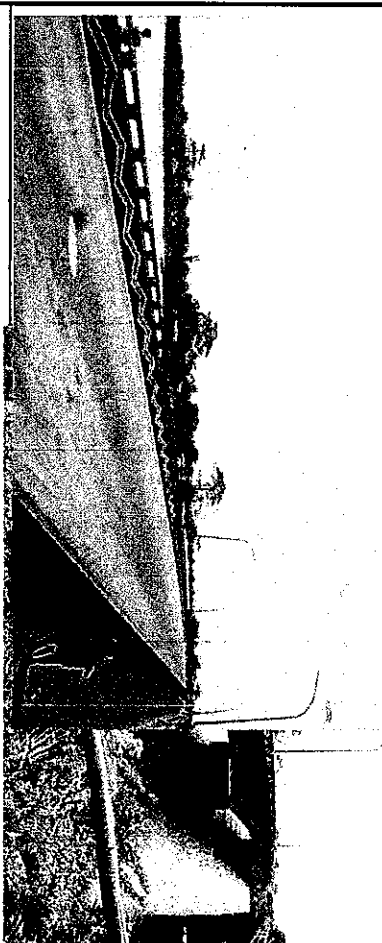
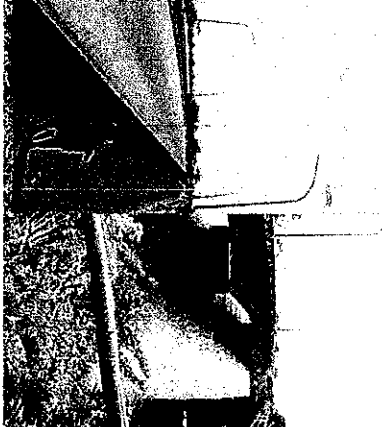
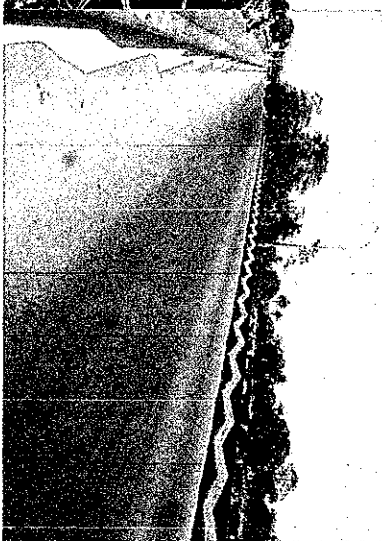


Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restrartion and Improvement in Morovia

Surveyer	Prince Cassell
Supervisor	MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridge Type	Bridge Length (m)	Span Length (m)	Carriageway Width (m)	Sidewalk Width (m)		Condition (Super str.)	Condition (Sub str.)	Remarks
		Latitude	Longitude					Right	Left			
B	U.N. DRIVE	10°47'02	6°23'68	PC	291.000	112.00	14.35	1.80	1.8	GOOD	GOOD	Span length is the mid span length of 3 span bridge

Pictures

Overall View	Side View	Surface View
		




Damaged Point (if there is)

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Surveyor	MANON A.T. CEPHAS
Supervisor	MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridge Type	Bridge Length (m)	Span Length (m)	Carrige way	Sidewalk Width (m)		Condition (Super str.)	Condition (Sub str.)	Remarks
		Latitude	Longitude					Right	Left			
C	SOMALLA DRIVE	10°46'84.3	6°20'36.3	RC	83.500	20.88	9.20	0.50	0.9	FAIR	FAIR	

Pictures

Overall View		Side View		Surface View	
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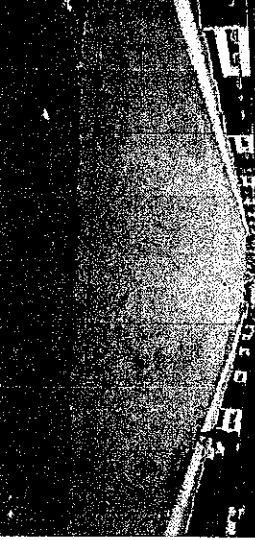
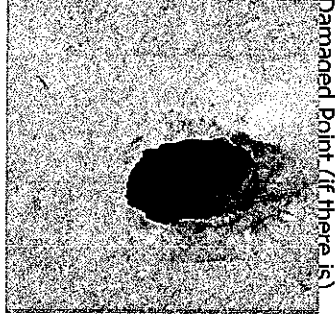


Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restrtaion and Improvement in Morovia

Surveyer: BENJAMIN S. MOMOLU
 Supervisor: MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridge Type	Bridge Length (m)	Span Length (m)	Carriage way	Sidewalk Width (m)		Condition (Super str.)	Condition (Sub str.)	Remarks
		Latitude	Longitude					Right	Left			
D	SONMALLIA DRIVE	10°43'68.8	6°18'95.2	RC	50.500	25.25	7.20	1.00	1	BAD	BAD	

Pictures

Overall View	Side View	Surface View
		 <p>Damaged Point (if there is)</p>

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Surveyor	MR. ADAM KONNEH
Supervisor	

Bridge No	Road Name	Bridge Location		Bridge Type	Bridge Length	Span Length	Carriageway	Sidewalk Width		Condition	Condition (Sub)	Remarks
		Latitude	Longitude					Right	Left			
D	SOMALIA DRIVE	10°43'68.8	6°18'95.2	RC	50.500	25.25	7.20	1.00	1	BAD	BAD	

Pictures

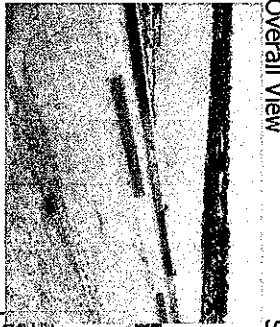
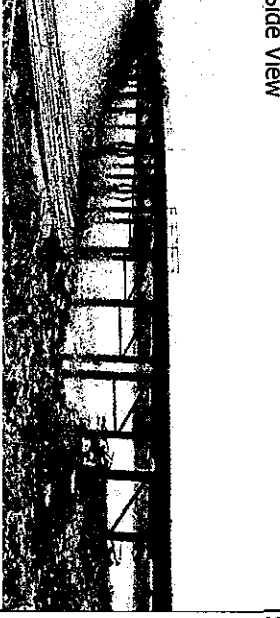
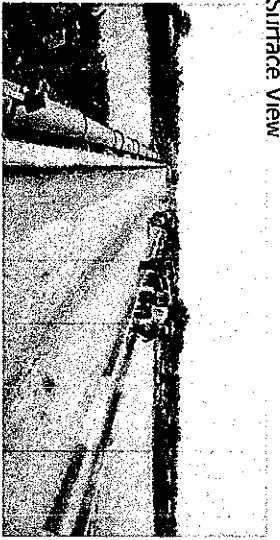

 <p>View of the bridge structure from the side, showing the concrete supports and the road surface.</p>	 <p>View of the bridge structure from the side, showing the concrete supports and the road surface.</p>
 <p>View of the bridge structure from the side, showing the concrete supports and the road surface.</p>	 <p>View of the bridge structure from the side, showing the concrete supports and the road surface.</p>

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restroration and Improvement in Morovia

Surveyor Prince Cassell
 Supervisor MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridg e RC	Bridge Length	Span Length	Carriag e way	Sidewalk Width		Conditio n	Conditio n (Sub)	Remarks
		Latitude	Longitude					Right	Left			
E	CALDWELL ROAD	10°46'77	6°22'36		107.100	4.98	5.10	0.00	1.2	BAD	BAD	65% of railings missing

Pictures

Overall View	Side View	Surface View	
			
Damaged Point (if there is)			

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Surveyor	Prince Cassell
Supervisor	MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridge Material	Bridge Length	Span Length	Carrage way	Sidewalk Width		Condition	Condition (Sub)	Remarks
		Latitude	Longitude					Right	Left			
G	NEW GEORGIA BARBERSVILLE	10°24'.96	6°21'.73	METAL	15.400	15.40	4.70			V. BAD	V. BAD	

Pictures

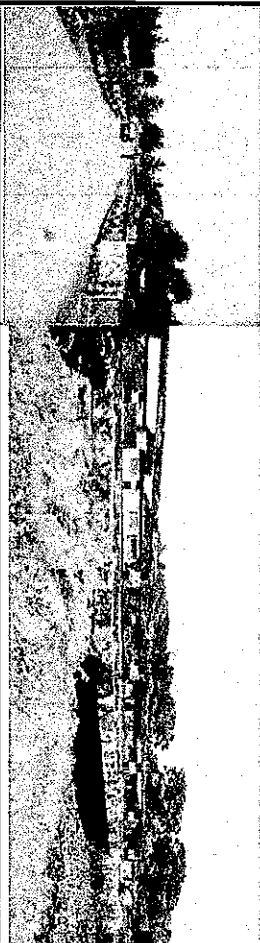


<p>Overall View</p> 	<p>Side View</p> 	<p>Surface View</p> 	
<p>Damaged Point (if there is)</p> 			

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Surveyor	Prince Cassell
Supervisor	MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridge RC	Bridge Length	Span Length	Carriageway	Sidewalk Width		Condition	Condition (Sub)	Remarks
		Latitude	Longitude					Right	Left			
H	BARDNERSVILLE -MT. BARCLAY	10°43'65	6°27'03		11.700	5.85	5.30	0.00	0	FAIR	GOOD	

Pictures

Overall View	Side View	Surface View
		

Damaged Point (if there is)

Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Surveyor **Ince Cassell**
 Supervisor **MR. ADAM KONNEH**

Bridge No	Road Name	Bridge Location		Bridg e	Bridge Length	Span Length	Carriag eway	Sidewalk Width		Conditio n	Conditio n (Sub	Remarks
		Latitude	Longitude					Right	Left			
1	BARBERSVILLE TO MT. BARCLAY	10°40'07	6°21'1	RC	7	3.50	8.00	0.00	0	GOOD	GOOD	Apparently construction was not completed. One wing wall missing

Pictures

Overall View



Damaged Point (if there is)

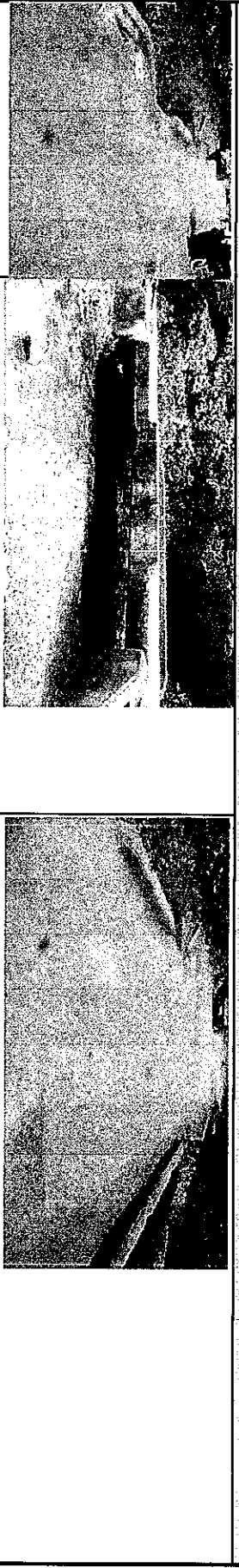


Bridge Picture Sheet for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

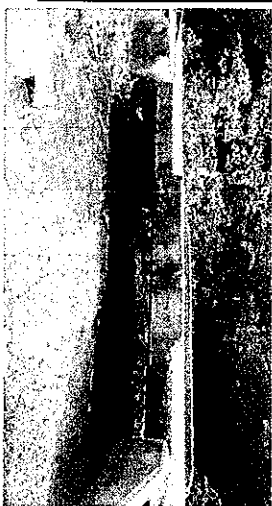
Surveyor: Ince Cassell
 Supervisor: MR. ADAM KONNEH

Bridge No	Road Name	Bridge Location		Bridge e	Bridge Length	Span Length	Carriageway	Sidewalk Width		Condition	Condition (Sub)	Remarks
		Latitude	Longitude					Right	Left			
2	BARRISVILLE TO MT. BARCLAY	10°40'74	6°21'39	RC	7.4	7.40	3.00	0.00	0	FAIR	FAIR	Needs to be replaced with a wider carriageway bridge

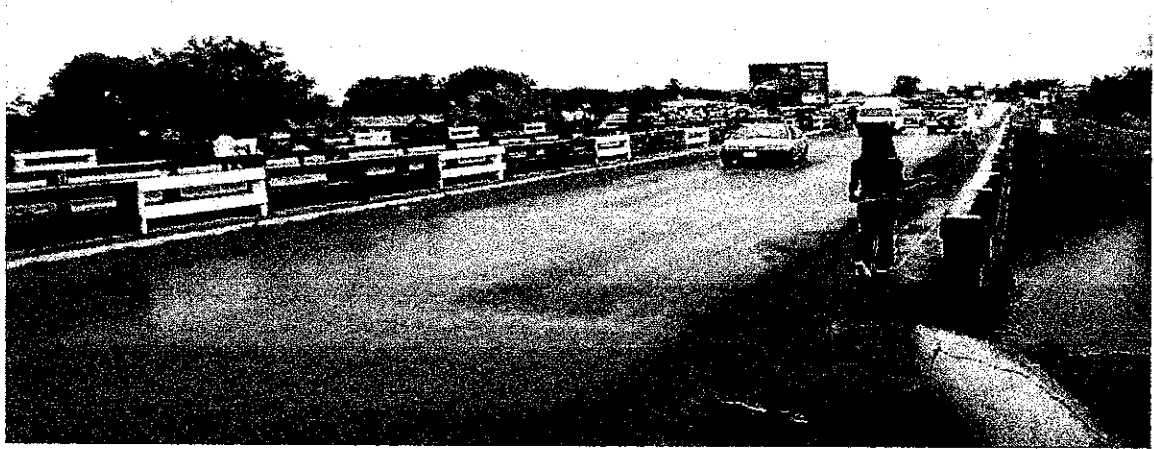
Pictures



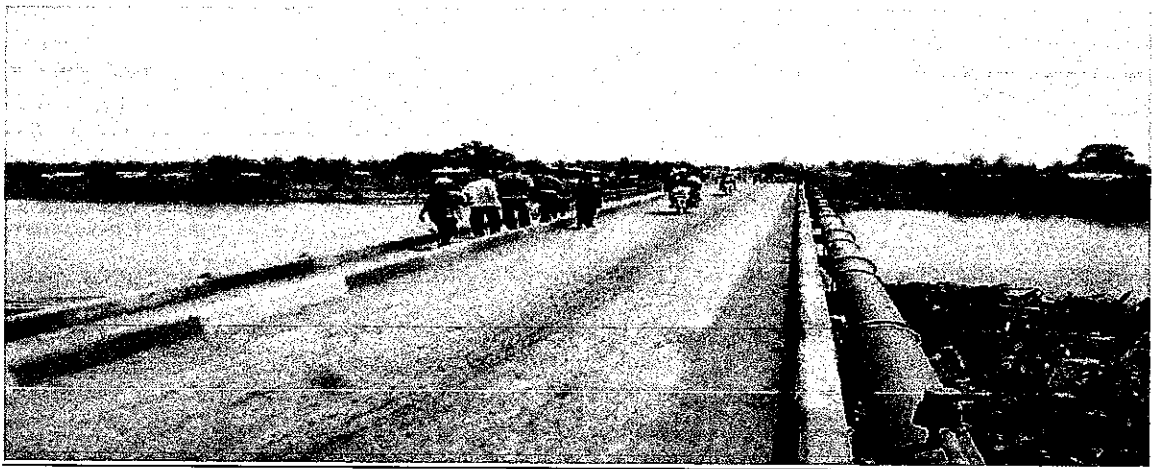
Damaged Point (if there is)



See Double Bridge over view
Photo



Caldwell Bridge overall view Photo



ST. Paul Bridge side view



Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#1 - Tubnan Boulevard		Surveyer		Benjamin S. Momolu															
Survey Date		February 5-6, 2009		Supervisor		Adam Konneh															
Road No.	Sub - Section No.	Check Point Name		Sub section Length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks				
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Width (m)	Right				Left	Type	Width (m)	Right
1	1	00+000	00+500	0.500	10°47'63.0	6°17'69.0	17.40	AC	12.00	GOOD	CC	2.9	2.9	0	0	PC	0	0	R	LE	
1	2	00+500	01+000	0.500	10°47'36.8	6°17'66.2	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	PC	0	0	F	LE	
1	3	01+000	01+500	0.500	10°47'07.7	6°17'64.9	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	PC	0	0	F	LE	
1	4	01+500	02+000	0.500	10°46'83.4	6°17'52.7	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	PC	0	0	F	LE	
1	5	02+000	02+500	0.500	10°46'59.4	6°17'44.2	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	PC	0	0	F	LE	
1	6	02+500	03+000	0.500	10°46'34.4	6°17'34.7	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	1/2PC	0	0	F	LE	
1	7	03+000	03+500	0.500	10°46'13.4	6°17'16.1	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	WO	0	0	F	LE	
1	8	03+500	04+000	0.500	10°46'00.2	6°16'93.0	19.90	AC	15.40	GOOD	CC	1.5	1.5	0	0	WO	0	0	F	LE	
1	9	04+000	04+500	0.500	10°45'78.4	6°16'76.7	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	10	04+500	05+000	0.500	10°45'52.2	6°16'67.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	11	05+000	05+500	0.500	10°45'27.6	6°16'60.5	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	12	05+500	06+000	0.500	10°45'01.9	6°16'50.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	13	06+000	06+500	0.500	10°44'76.7	6°16'41.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	14	06+500	07+000	0.500	10°44'48.3	6°16'31.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	MS	0.8	0.8	R	LE	
1	15	07+000	07+500	0.500	10°44'25.7	6°16'23.6	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	MS	0	0.8	F	LE	
1	16	07+500	08+000	0.500	10°44'00.1	6°16'15.0	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	17	08+000	08+500	0.500	10°43'72.9	6°16'14.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	R	LE	
1	18	08+500	09+000	0.500	10°43'49.6	6°16'07.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	19	09+000	09+500	0.500	10°43'22.9	6°15'95.1	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	20	09+500	10+000	0.500	10°42'97.1	6°15'86.2	19.90	AC	15.40	GOOD	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	21	10+000	10+500	0.500	10°42'68.6	6°15'86.4	19.90	AC	15.40	FAIR	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	22	10+500	11+000	0.500	10°42'42.6	6°15'87.6	19.90	AC	15.40	FAIR	E	1.5	1.5	0	0	WO	0	0	F	LE	
1	23	11+000	11+916	0.416	10°42'21.3	6°15'87.8	19.90	AC	15.40	FAIR	E	1.5	1.5	0	0	WO	0	0	F	LE	
24																					
25																					

Carriageway//Shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/ drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morotia

Road No and Name - Mansion - Water Street / UN Drive

Survey Date 10-Feb-09

Surveyor **Prince Cassell**
Supervisor **Adam Komeh**

Road No	Sub-section No.	Check Point Name		Sub-section Length (km)	Cross Section Location		Right of Way (m)	Carriageway			Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks																														
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type	Width (m)		Left	Right				Width (m)	Left	Right																											
2	1	00+000	00+057	0.057	10°47'77"	6°17'97"	19.00	AC	17.76	FAIR	CC	2.6	2.42	0	PC	0.3	0.4	R	LE																													
	2	00+057	00+374	0.317	10°47'78"	6°17'99"	27.60	AC/C	25.60	FAIR	CC	2.6	1.35	5.62	PC	0.3	0.35	R	LE																													
	3	00+374	00+734	0.360	10°47'88"	6°18'13"	16.07	ST	14.45	GOOD	CC	2.6	2.3	0	PC	0.3	0.4	R	LE																													
	4	00+734	01+046	0.312	10°47'94"	6°18'34"	16.90	ST	16.90	GOOD	CC	2.8	1.94	0	-	-	-	F	LE	Drain is Covered																												
	5	01+046	01+546	0.500	10°48'09"	6°18'42"	18.80	AC	17.30	FAIR	CC	2.35	2.35	0	PC	0.35	0.35	F	LE																													
	6	01+546	01+756	0.210	10°48'35"	6°18'53"	17.70	ST	17.70	GOOD	CC	2.46	3.09	0	PC	0.3	0.3	F	LE																													
	7	01+756	01+801	0.045	10°48'44"	6°18'57"	19.70	ST	19.70	GOOD	CC	3.39	2.8	0	PC	0.4	0.35	F	LE																													
	8	01+801	01+911	0.110	10°48'43"	6°18'56"	19.40	ST	17.70	GOOD	CC	2.45	1.52	0	PC	0.4	0.4	F	LE																													
	9	01+911	02+040	0.129	10°48'49"	6°18'61"	20.19	AC	18.29	BAD	CC	2.45	2.09	0	PC	0.4	0.4	F	LE																													
	10	02+040	02+540	0.500	10°48'56"	6°18'63"	12.80	AC	12.10	BAD	CC	1.5	1.9	0	PC	0.4	0.4	F/R	LE																													
	11	02+540	02+740	0.200	10°48'83"	6°18'73"	12.80	AC	12.10	BAD	CC	1.5	1.9	0	PC	0.4	0.4	F/R	LE																													
	12	02+740	03+240	0.500	10°48'96"	6°18'77"	16.30	AC	16.30	FAIR	CC	3.5	2.87	0	PC	0.4	0.4	R	LE																													
	13	03+240	03+740	0.500	10°48'92"	6°19'03"	16.30	AC	16.30	FAIR	CC/E	3.5	2.87	0	PC	0.4	0.4	R	LE																													
	14	03+740	04+240	0.500	10°48'92"	6°19'30"	16.30	CC/S	16.30	FAIR	CC/E	3.5	2.87	0	PC	0.4	0.4	R	LE																													
	15	04+240	04+740	0.500	10°48'67"	6°19'29"	18.10	CC	15.70	FAIR	CC	1.6	1.8	0	PC	0.4	0.4	F	LE																													
	16	04+740	04+999	0.259	10°48'42"	6°19'21"	19.40	AC	19.40	BAD	CC	3.4	4.5	0	-	-	-	F	LE	Drain is Hidden																												
	17	04+999	05+389	0.390	10°48'29"	6°19'15"	14.50	AC	14.50	BAD	CC	3.2	2.2	0	PC	0.4	0.4	R	LE	Road Ends																												
	18	05+389			10°48'11"	6°19'05"																																										
<table border="1"> <thead> <tr> <th>Carriageway / Shoulder Type</th> <th>Condition</th> <th>Drainage Type</th> <th>Terrain</th> <th>Road Structure</th> </tr> </thead> <tbody> <tr> <td>AC (Asphalt Pavement)</td> <td>Very Bad</td> <td>PC (Pre-cast Concrete)</td> <td>F (Flat)</td> <td>Em/Embankment H > 2.0m</td> </tr> <tr> <td>ST (Surface Treatment)</td> <td>Bad</td> <td>Cl (Concrete/Mortar Lined)</td> <td>R (Rolling)</td> <td>Cu (Cut H > 2.0m)</td> </tr> <tr> <td>CC (Cement Concrete)</td> <td>Fair</td> <td>MS (Masonry)</td> <td>M (Mountainous)</td> <td>LE (Level H < 2.0m)</td> </tr> <tr> <td>G (Gravel)</td> <td>Good</td> <td>NL (No Lining)</td> <td></td> <td></td> </tr> <tr> <td>E (Earth)</td> <td></td> <td>WO (Without side ditch/drainage)</td> <td></td> <td></td> </tr> </tbody> </table>																			Carriageway / Shoulder Type	Condition	Drainage Type	Terrain	Road Structure	AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em/Embankment H > 2.0m	ST (Surface Treatment)	Bad	Cl (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H > 2.0m)	CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)	G (Gravel)	Good	NL (No Lining)			E (Earth)		WO (Without side ditch/drainage)		
Carriageway / Shoulder Type	Condition	Drainage Type	Terrain	Road Structure																																												
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em/Embankment H > 2.0m																																												
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Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		Road Section		Sub section		Cross Section Location		Right of Way (m)		Carriageway		Shoulder/Sidewalk		Median		Drainage		Terrain		Road Structure		Remarks
Survey Date		Check Point Name		Length (km)		Latitude Longitude		Type		Width (m)		Type		Width (m)		Type		Type		Em (Embankment H ≥ 2.0m) Cut (Cut H ≥ 2.0m) LE (Level H < 2.0m)		
3	00+000	00+286.2	0.286	10°48'14.4"	69°19'30.25"	80	AC	19.70	Fair	CC	1.8	1.8	1.1	-	-	-	-	-	-	-	F	LE
2	00+286.2	00+786.2	0.500	10°48'07.4"	69°19'55.17"	00	AC	14.20	Fair	CC	1.7	1.7	1.1	-	-	-	-	-	-	-	F	LE
3	00+786.2	00+886.2	0.100	10°48'04.4"	69°19'61.47"	00	AC	14.90	Fair	CC	1.7	1.7	1.1	-	-	-	-	-	-	-	F	LE
4	00+886.2	01+127.9	0.242	10°47'99.1"	69°19'67.43"	00	AC	34.00	Fair	CC	1.6	1.6	1.2	13.1	CL	2.1	2.1	2.1	2.1	2.1	F	LE
5	01+127.9	01+450.1	0.322	10°47'99.1"	69°19'89.34"	00	AC	21.60	Fair	CC	1.6	1.6	1.2	1.2	CL	2.1	2.1	2.1	2.1	2.1	F	LE
6	01+450.1	01+689.1	0.239	10°47'86.1"	69°19'99.30"	00	AC	21.60	Fair	CC	1.6	1.6	1.2	8	CL	2.1	2.1	2.1	2.1	2.1	F	LE
7	01+689.1	02+051.1	0.362	10°47'71.4"	69°20'13.30"	00	AC	21.60	Fair	CC	1.6	1.6	1.2	1.2	CL	2.1	2.1	2.1	2.1	2.1	F	LE
8	02+051.1	02+374.1	0.323	10°47'60.1"	69°20'35.30"	00	AC	21.60	Fair	CC	1.6	1.6	1.2	8	CL	2.1	2.1	2.1	2.1	2.1	F	LE
9	02+374.1	02+442.8	0.069	10°47'89.1"	69°20'29.30"	50	AC	21.60	Fair	CC	1.6	1.6	1.2	1.2	CL	2.1	2.1	2.1	2.1	2.1	F	LE
10	02+442.8	02+942.8	0.500	10°47'44.1"	69°20'53.23"	10	AC	21.60	Fair	E	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
11	02+942.8	03+442.8	0.500	10°47'34.1"	69°20'77.83"	10	AC	21.60	Fair	E	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
12	03+442.8	03+942.8	0.500	10°47'23.8"	69°21'02.63"	10	AC	21.60	Fair	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
13	03+942.8	04+442.8	0.500	10°47'20.1"	69°21'29.53"	10	AC	21.60	Bad	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
14	04+442.8	04+942.8	0.500	10°47'19.1"	69°21'56.43"	10	AC	21.60	Fair	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
15	04+942.8	05+442.8	0.500	10°47'23.4"	69°21'83.31"	10	AC	21.60	Fair	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
16	05+442.8	05+942.8	0.500	10°47'29.1"	69°21'09.93"	10	AC	21.60	Fair	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	LE
17	05+942.8	06+442.8	0.500	10°47'27.1"	69°22'36.41"	00	AC	6.80	V. Bad	G	1.6	1.6	0	0	PC	0	0	1.25	1.25	1.25	F	EM
18	06+442.8	06+942.8	0.500	10°47'11.2"	69°22'58.11"	00	AC	6.80	Bad	G	1.6	1.6	0	0	PC	0	0	1.25	1.25	1.25	F	EM
19	06+942.8	07+442.8	0.500	10°46'95.8"	69°22'80.11"	00	AC	6.80	Fair	G	1.6	1.6	0	0	PC	0	0	1.25	1.25	1.25	F	EM
20	07+442.8	07+942.8	0.500	10°46'90.9"	69°23'06.18"	00	AC	6.80	Fair	G	1.6	1.6	0	0	PC	0	0	1.25	1.25	1.25	F	EM
21	07+942.8	08+442.8	0.500	10°46'91.9"	69°23'33.18"	00	AC	6.80	Fair	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	EM
22	08+442.8	08+942.8	0.500	10°46'99.9"	69°23'59.41"	00	AC	6.80	Fair	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	EM
23	08+942.8	08+983.3	0.045	10°47'00.1"	69°23'61.18"	00	AC	6.80	FAIR	G	1.6	1.6	0	0	WO	0	0	0	0	0	F	EM
24																						
25																						

Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cut (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/ drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		4 - Somalia Drive (Freeport- Redlight)				Surveyer		Joseph S. T. Collins, Jr											
Survey Date		February 9-10, 2009				Supervisor		Adam Konneh											
Road Section No.	Sub-section No.	Check Point Name		Sub-section Length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks		
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Right	Left				Right	Left
4	1	00+000	00+128	0.128	10°47'31.3	6°20'30.5	40.20	AC	26.60	GOOD	AC	3.21	3.21	3.1	WO	1.75	1.75	F	
4	2	00+128	00+628	0.500	10°47'15.7	6°20'27.3	44.00	AC	14.60	BAD	E			0	WO	0	0	F	
4	3	00+628	01+128	0.500	10°47'03.2	6°20'22.4	44.00	AC	6.80	V/BAD	G	2.3	2.3	0	WO	0	0	F	
4	4	01+128	01+860.2	0.500	10°46'45.5	6°20'20.6	44.00	AC	6.80	V/BAD	G	2.5	2.5	0	WO	0	0	F	
4	5	01+860.2	02+380.2	0.500	10°46'29.2	6°20'18.6	44.00	AC	6.80	V/BAD	G	2.5	2.5	0	WO	0	0	F	
4	6	02+380.2	02+880.2	0.500	10°46'12.1	6°20'16.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	7	02+880.2	03+380.2	0.500	10°45'57.0	6°20'14.5	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	8	03+380.2	03+880.2	0.500	10°45'40.8	6°20'12.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	9	03+880.2	04+380.2	0.500	10°45'24.7	6°20'10.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	10	04+380.2	04+880.2	0.500	10°45'08.7	6°20'08.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	11	04+880.2	05+380.2	0.500	10°44'52.6	6°20'05.2	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	12	05+380.2	05+880.2	0.500	10°44'38.1	6°19'37.8	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	13	05+880.2	06+380.2	0.500	10°44'24.4	6°19'49.1	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	14	06+380.2	06+880.2	0.500	10°44'10.5	6°19'40.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	15	06+880.2	07+380.2	0.500	10°43'58.0	6°19'29.5	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	16	07+380.2	07+880.2	0.500	10°43'45.8	6°19'22.4	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	17	07+880.2	08+380.2	0.500	10°43'41.3	6°19'00.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	18	08+380.2	08+380.286	0.086	10°43'38.0	6°18'56.1	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	19	08+380.286	08+880.286	0.500	10°43'32.7	6°18'53.2	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	20	08+880.286	09+380.286	0.500	10°43'19.0	6°18'47.4	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	21	09+380.286	09+880.286	0.500	10°43'04.8	6°18'26.8	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	22	09+880.286	10+380.286	0.500	10°42'50.7	6°18'18.5	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	23	10+380.286	10+880.286	0.500	10°42'36.5	6°18'10.7	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	24	10+880.286	11+380.286	0.500	10°42'22.5	6°18'02.7	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	25	11+380.286	11+880.286	0.500	10°42'08.3	6°17'54.5	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	1	11+880.286	12+380.286	0.500	10°41'54.1	6°17'46.6	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	2	12+380.286	12+880.286	0.500	10°41'40.1	6°17'38.5	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
4	3	12+880.286	13+239.086	0.459	10°41'27.1	6°17'31.2	44.00	AC	6.80	Fair	G	2.5	2.5	0	WO	0	0	F	
Carriageway / shoulder Type		AC (Asphalt Pavement)		Condition		Very Bad		Drainage Type		PC (Pre-cast Concrete)		Terrain		F (Flat)		Road Structure		Em (Embankment H ≥ 2.0m)	

Road Inventory Survey for The Master Plan Study on Urban Facilities Restoration and Improvement in Morovia

Road No and Name		#5 - Mt. Barclay - Redlight Kakaka Highway		Survey Date		February 6-9, 2009		Surveyor		Prince Cassell		Supervisor		Adam Komeh						
Road No.	Section No.	Check Point Name		Sub section length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width	Drainage		Road Structure	Remarks				
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Width (m)	Right			Left	Type	Width (m)	Right
5	1	00+000	00+500	0.500	10°39'22	6°20'95	19.00	AC	11.00	Fair	G	2	2	0	WO	0	0	F	LE/EM	Starts road
5	2	00+500	01+000	0.500	10°39'59	6°20'72	19.00	AC	11.00	Fair	G	2	2	0	G	0	0.6	F	LE/EM	
5	3	01+000	01+355	0.335	10°39'50	6°20'47	19.00	AC	11.00	Fair	G	2	2	0	WO	0	0	F/R	LE	stops at a bridge
5	4	01+355	01+855	0.500	10°39'58	6°20'50	19.00	AC	11.00	Bad	AC/G	2	2	0	WO	0	0	F/R	LE	
5	5	01+855	02+279.3	0.424	10°39'52	6°20'04	19.00	AC	9.60	Fair	AC/G	1.3	1.3	0	WO	0	0	F	LE	stops at a bridge
5	6	02+279.3	02+779.3	0.500	10°39'54	6°19'81	19.00	AC	9.60	Bad	AC/E	1.3	1.3	0	WO	0	0	F/R	LE/EM	
5	7	02+779.3	03+279.3	0.500	10°39'73	6°19'54	19.00	AC	9.60	Good	AC/G/E	1.3	1.3	0	WO	0	0	F/R	LE	
5	8	03+279.3	03+779.3	0.500	10°39'64	6°19'30	19.00	AC	9.60	Good	AC/G/E	1.3	1.3	0	WO	0	0	F/R	LE	
5	9	03+779.3	04+279.3	0.500	10°39'92	6°19'04	19.00	AC	11.00	Good	AC/G/E	2	2	0	WO	0	0	F	LE/EM	
5	10	04+279.3	04+779.3	0.500	10°40'06	6°18'78	19.00	AC	11.00	Good	AC/G/E	2	2	0	WO	0	0	R	LE	stops at a bridge
5	11	04+779.3	05+279.3	0.500	10°40'07	6°18'77	19.00	AC	11.00	Good	AC/G	2	2	0	WO	0	0	F/R	LE	
5	12	05+279.3	05+779.3	0.500	10°40'24	6°18'55	19.00	AC	9.60	Fair	AC/G	1.3	1.3	0	WO	0	0	F	LE	
5	13	05+779.3	06+279.3	0.500	10°40'41	6°18'36	19.00	AC	9.60	Fair	G/E	1.3	1.3	0	WO	0	0	F	LE	
5	14	06+279.3	06+744.3	0.465	10°40'58	6°18'15	21.00	AC	11.00	Good	G/E	2	2	0	WO	0	0	F	LE	
5	15	06+744.3	07+244.3	0.500	10°40'74	6°17'96	21.00	AC	11.00	Good	G/E	2	2	0	WO	0	0	F	LE/EM	
5	16	07+244.3	07+744.3	0.500	10°40'97	6°17'81	21.00	AC	11.00	Good	G/E	2	2	0	WO	0	0	F	LE	
5	17	07+744.3	08+244.3	0.500	10°41'42	6°17'70	21.00	AC	11.00	Bad	G/E	2	2	0	WO	0	0	F	LE	
5	18	08+244.3	08+403.3	0.159	10°41'42	6°17'56	30.80	AC	18.00	Fair	G/E	2	2	4.28	WO	0	0	F	LE	
5	19	08+403.3			10°41'45	6°17'51														
20																				
21																				
22																				
23																				
24																				
25																				

Carriageway / shoulder Type		Condition	Drainage Type		Terrain		Road Structure	
AC (Asphalt Pavement)		Very Bad	PC (Pre-cast Concrete)		F (Flat)		Em (Embankment H ≥ 2.0m)	
ST (Surface Treatment)		Bad	CL (Concrete/Mortar Lined)		R (Rolling)		Cu (Cut H ≥ 2.0m)	
CC (Cement Concrete)		Fair	MS (Masonry)		M (Mountainous)		LE (Level H < 2.0m)	
G (Gravel)		Good	NL (No Lining)					
E (Earth)			WO (Without side ditch/ drainage)					

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name: ELWA- Gbenghar Town RIA Highway

Survey Date: 16-Feb-09

Surveyer: Benjamin S. Mommolu
Supervisor: Adam Konneh

Road No.	Sub - Secti On No	Check Point Name		Sub section	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Media		Drainage		Terrain	Road Structure	Remarks			
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type	Width (m)	Right	Left	Width (m)				Right	Left	
6	1	00+000	00+500	0.500	10°42'24.2	6°15'00.4	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	Starts road
6	2	00+500	01+000	0.500	10°42'25.3	6°15'33.4	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	3	01+000	01+500	0.500	10°42'24.5	6°15'05.2	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	4	01+500	02+000	0.500	10°42'16.4	6°14'42.7	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	5	02+000	02+500	0.500	10°41'54.7	6°14'46.2	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0.8	F	LE	
6	6	02+500	03+000	0.500	10°41'53.1	6°14'30.2	39.00	AC	7.30	Good	WACC	2	2	0	0	WO	0	0	F	LE	
6	7	03+000	03+500	0.500	10°41'47.4	6°14'41.6	39.00	AC	7.30	Good	WACC	2	2	0	0	WO	0	0	F	LE	
6	8	03+500	04+000	0.500	10°41'21.2	6°14'35.2	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	9	04+000	04+500	0.500	10°40'54.8	6°14'28.2	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	10	04+500	05+000	0.500	10°40'50.1	6°14'20.9	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	11	05+000	05+500	0.500	10°40'50.1	6°14'02.3	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	12	05+500	06+000	0.500	10°40'23.7	6°13'39.8	39.00	AC	7.30	Good	WACC	2	2	0	0	WO	0	0	F	LE	
6	13	06+000	06+500	0.500	10°39'56.5	6°13'38.2	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	14	06+500	07+000	0.500	10°39'58.6	6°13'38.3	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	15	07+000	07+500	0.500	10°39'42.3	6°13'38.6	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	16	07+500	08+000	0.500	10°39'15.7	6°13'39.7	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	17	08+000	08+500	0.500	10°38'50.0	6°13'38.4	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	18	08+500	09+000	0.500	10°38'53.8	6°13'30.3	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
6	19	09+000	09+050	0.050	10°38'51.1	6°13'39.6	39.00	AC	7.30	Good	E	2	2	0	0	WO	0	0	F	LE	
20																					
21																					
22																					
23																					
24																					
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Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CU (Concrete/Ashtar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#7 - Bypass - Broad Street		Survey Date	###		Surveyer	Prince V. Cassell		Supervisor	Adam Konneh		Road Structure	Remarks						
Sub-section No.	Check Point Name	From	To	Sub-section Length (km)	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks			
					Latitude	Longitude		Type	Width (m)	Condition	Type		Width (m)	Right				Left	Right	Left
1	00+000	00+500	0.500	10°47'73	6°17'97	24.50	AC	21.40	Fair	CC/E	3	3	0	PC	0.46	0.46	R	LE	Road starts	
2	00+500	01+000	0.500	10°47'77	6°18'21	24.50	AC	21.00	Fair	CC/E	3	3	0	PC	0.46	0.46	R	LE		
3	01+000	01+500	0.500	10°47'86	6°18'43	24.50	AC	21.00	Fair	CC/E	3	3	0	PC	0.46	0.46	F	LE		
4	01+500	01+740	0.240	10°47'92	6°18'72	24.50	AC	21.00	Fair	CC/E	3	3	0	PC	0.46	0.46	F	LE		
5	01+740	02+054	0.314	10°47'90	6°18'84	30.15	AC	30.15	Fair	CC	3.06	3.06	5.73	PC	0.46	0.46	R	LE		
6	02+054	02+162	0.108	10°48'07	6°18'89	31.00	AC	29.30	Fair	CC	3.23	1.83	3.09	PC	0.46	0.46	F	LE		
7	02+162	02+662	0.500	10°48'14	6°18'92	30.50	AC	30.50	Bad	CC	3.43	3.04	5.92	PC	0.46	0.46	F	LE		
8	02+662	03+162	0.500	10°48'38	6°19'00	30.50	AC	30.50	Bad	CC	3.05	3.04	5.92	PC	0.46	0.46	F/R	LE		
9	03+162	03+372	0.210	10°48'63	6°19'10	30.50	AC	30.50	Bad	CC	3.05	3.04	5.92	PC	0.46	0.46	R	LE	Road ends	
10	03+372			10°48'74	6°19'14															
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Carriageway/shoulder type	Condition	Drainage type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#8 - Caldwell Road		Surveyer		Joseph S. T. Collins, Jr		Supervisor		Adam Konneh		Remarks								
Survey Date		4-Feb-09		Right of Way		Shoulder/Sidewalk		Median		Drainage		Terrain								
Road No.	Sub - Section	Check Point Name	From	To	Length	Type	Width (m)	Condition	Type	Right	Left	Type	Right	Left	Terrain	Road Structure				
8	1	00+000	00+387	00+387	0.387	10+47'01.5	6+2'21.8	24.30	G	7.60	V.Bad	E	1.7	1.7	0	WO	0	0	F	LE
8	2	00+387	00+761.7	00+761.7	0.375	10+46'74.7	6+2'37.6	14.00	AC	7.60	V.Bad	AC	2	2	0	PC	2.7	0	F	LE
8	3	00+761.7	01+261.7	01+261.7	0.500	10+46'51.9	6+2'52.4	29.00	G	7.60	V.Bad	G	1.6	1.6	0	0	0	0	F	LE
8	4	01+261.7	01+761.7	01+761.7	0.500	10+46'29.2	6+2'66.9	29.00	G	7.60	V.Bad	G	1.4	1.4	0	0	4.93	3.8	F	LE
8	5	01+761.7	02+161.7	02+161.7	0.400	10+46'10.1	6+2'77.1	29.00	G	9.00	V.Bad	G	2	2	0	WO	0	0	R	LE
8	6	02+161.7	02+661.7	02+661.7	0.500	10+45'85.7	6+2'89	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	7	02+661.7	03+161.7	03+161.7	0.500	10+45'57.4	6+2'05.1	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	8	03+161.7	03+431.7	03+431.7	0.270	10+45'45	6+2'12.9	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	9	03+431.7	03+931.7	03+931.7	0.500	10+45'09.8	6+2'335	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	10	03+931.7	04+431.7	04+431.7	0.500	10+44'56.9	6+2'67.8	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	11	04+431.7	04+931.7	04+931.7	0.500	10+44'54.1	6+2'65.3	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	12	04+931.7	05+431.7	05+431.7	0.500	10+44'44.1	6+2'55.9	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	13	05+431.7	05+931.7	05+931.7	0.500	10+44'43.7	6+2'41.9	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	14	05+931.7	06+431.7	06+431.7	0.500	10+44'42.1	6+2'40.3	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	15	06+431.7	06+931.7	06+931.7	0.500	10+44'35.7	6+2'34.5	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
8	16	06+931.7	07+331.7	07+331.7	0.400	10+44'34.9	6+2'34.1	29.00	G	9.00	V.Bad	G	1.6	1.6	0	WO	0	0	F	LE
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Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#9 - Dixville - Barnesville		Surveyer		Joseph S. T. Collins, Jr														
Survey Date		February 4-6, 2009		Supervisor		Adam Komeh														
Road Section No.	Check Point Name		Sub section Length (km)	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks				
	From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Width (m)	Right				Left	Type	Width (m)	Right
1	00+000	00+500	0.500	10°45'36.1	6°22'87.4	11.00	E	4.30	V.Bad	E	1.7	1.5	0	0	0	0	0	LE	At beginning of section	
2	00+500	00+800	0.300	10°45'29.6	6°22'66.8	11.00	E	4.30	V.Bad	E	1.4	1.6	0	0	0	0	0	LE	is a market on bothsides	
3	00+800	01+300	0.500	10°45'21	6°22'40.8	11.00	E	4.30	V.Bad	E	1.5	1.6	0	0	0	0	0	LE	of the road and few meters away from the market in thi	
4	01+300	01+800	0.500	10°45'24	6°22'26.8	11.00	E	4.30	V.Bad	E			0	0	0	0	0	LE		
5	01+800	02+300	0.500	10°45'04.7	6°22'45.1	11.00	E	4.30	V.Bad	E			0	0	0	0	0	LE	section is a train track that	
6	02+300	02+800	0.500	10°44'90.8	6°22'62.2	11.00	E	4.30	V.Bad	E			0	0	0	0	0	LE	leads to Bong Mines	
7	02+800	03+100	0.300	10°44'75.5	6°22'69.1	11.00	E	4.30	V.Bad	E			0	0	0	0	0	LE		
8	03+100	03+600	0.500	10°44'48.5	6°22'51.7	11.00	G	4.30	V.Bad	G			0	0	0	0	0	LE		
9	03+600	04+100	0.500	10°44'28.7	6°22'44.2	11.00	G	4.30	V.Bad	G	1.8	1.8	0	0	0	0	0	LE		
10	04+100	04+600	0.500	10°44'00.2	6°22'26.1	11.00	G	4.30	V.Bad	G	1.6	1.6	0	0	0	0	0	LE		
11	04+600	05+100	0.500	10°43'76.5	6°22'39.7	11.00	G	4.30	V.Bad	G	1.6	1.6	0	0	0	0	0	LE		
12	05+100	05+600	0.500	10°43'56.7	6°22'28.6	11.00	G		V.Bad	G	1.6	1.6	0	0	0	0	0	LE		
13	05+600	05+973	0.373	10°43'44.4	6°22'06.2	11.00	G	6.00	V.Bad	G	1.5	1.5	0	0	0	0	0	LE		
14	05+973	06+473	0.500	10°43'68.1	6°21'92.8	14.00	G	8.00	V.Bad	G	1.5	1.5	0	0	0	0	0	LE		
15	06+473	06+973	0.500	10°43'91.2	6°21'70.8	14.00	G	8.00	V.Bad	G	1.5	1.5	0	0	0	0	0	LE		
16	06+973	07+473	0.500	10°43'87.1	6°21'45.2	14.00	G	8.00	V.Bad	G	1.5	1.5	0	0	0	0	0	LE		
17	07+473	07+679.7	0.207	10°43'92.1	6°21'35.1	14.00	G	3.00	V.Bad	G	1.5	1.5	0	0	0	0	0	LE		
18	07+679.7	08+179.7	0.500	10°43'96.5	6°21'09.3	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
19	08+179.7	08+679.7	0.500	10°44'04.2	6°20'77.9	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
20	08+679.7	09+179.7	0.500	10°44'24.4	6°20'61.4	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
21	09+179.7	09+679.7	0.500	10°44'30	6°20'37.4	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
22	09+679.7	10+179.7	0.500	10°44'30.5	6°20'13.3	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
23	10+179.7	10+679.7	0.500	10°44'33	6°19'87.0	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
24	10+679.7	10+839.3	0.160	10°44'35	6°19'78.7	23.00	AC	7.40	V.Bad	AC	1.8	1.8	0	0	0	0	0	LE		
25																				

Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Ancor Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/ drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name	#10 - Bannerville - Mt. Barclay		Survey Date	2/4-5/2009		Surveyor	Prince Cassell		Supervisor	Adam Konneh	
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Road No.	Sub - Secti on No	Check Point Name		Sub section Length (km)	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Media n		Drainage		Terrain	Road Structure	Remarks
		From	To		Latitude	longitu de		Type	Width (m)	Condition	Type	Width (m)	Right	Left	Type			
10	1	00+000	00+043	0.043	10°44'00	6°20'8	12.60	G		1	0	0	NL	0	0.6	F	LE	New Drain
10	2	00+043	00+543	0.500	10°44'00	6°20'83	11.60	G	8	1	0	0	NL	0	0.6	F	LE	
10	3	00+543	00+769	0.226	10°43'7	6°21'00	14.00	G	10	0	0	0	NL	0.6	0.6	F	LE	Station ends at Bridge
10	4	00+769	01+269	0.500	10°43'8	6°21'06	14.00	G	9.5	0	0	0	NL	0.6	0.6	F	LE	
10	5	01+269	01+769	0.500	10°43'3	6°20'9	14.20	G	9.7	0	0	0	NL	0.6	0.6	F	LE	
10	6	01+769	02+269	0.500	10°43'10	6°21'1	14.50	G	9.50	0	0	0	NL	0.6	0.6	F	LE	
10	7	02+269	02+769	0.500	10°42'9	6°21'1	14.50	G	9.70	0	0	0	NL	0.6	0.6	F	LE	
10	8	02+769	03+129	0.360	10°42'7	6°21'1	14.50	G	9.40	0	0	0	NL	0.6	0.6	F	LE	Station ends at Bridge
10	9	03+129	03+629	0.500	10°42'5	6°21'1	14.50	G	9.70	0	0	0	NL	0.6	0.6	F	LE	
10	10	03+629	04+129	0.500	10°42'2	6°21'1	14.50	G	9.50	0	0	0	NL	0.6	0.6	F	LE	
10	11	04+129	04+629	0.500	10°41'9	6°21'4	14.50	G	9.50	0	0	0	NL	0.6	0.6	F	LE	
10	12	04+629	05+129	0.500	10°41'7	6°21'4	14.50	G	9.30	0	0	0	NL	0.6	0.6	R	CU/LE	
10	13	05+129	05+629	0.500	10°41'5	6°21'5	14.50	G	9.00	0	0	0	NL	0.6	0.6	R	CU/LE	
10	14	05+629	06+129	0.500	10°41'3	6°21'6	14.50	G	9.00	0	0	0	NL	0.6	0.6	R	CU/LE	
10	15	06+129	06+629	0.500	10°41'0	6°21'8	14.50	G	9.00	0	0	0	NL	0.6	0.6	F/R	LE	
10	16	06+629	07+129	0.500	10°40'8	6°21'9	14.50	G	9.30	0	0	0	NL	0.6	0.6	F	LE	
10	17	07+129	07+629	0.500	10°40'5	6°21'9	14.50	G	9.50	0	0	0	NL	0.6	0.6	F	LE	
10	18	07+629	08+129	0.500	10°40'3	6°21'6	14.50	G	9.90	0	0	0	NL	0.6	0.6	F	LE	
10	19	08+129	08+629	0.500	10°40'1	6°21'5	14.50	G	9.50	0	0	0	NL	0.6	0.6	F	LE	
10	20	08+629	08+672	0.043	10°39'8	6°21'4	14.00	G	9.30	0	0	0	NL	0.6	0.6	F	LE	Station ends at Bridge
10	21	08+672	09+172	0.500	10°39'9	6°21'39	14.00	G	9.70	0	0	0	NL	0.6	0.6	F	CU/LE	
10	22	09+172	09+672	0.500	10°39'62	6°21'45	13.00	G	9.70	0	0	0	NL	0.6	0.6	F	LE	
10	23	09+672	10+172	0.500	10°39'41	6°21'31	12.40	G	9.70	0	0	0	NL	0	0.6	F	LE	
10	24	10+172	10+377	0.250	10°39'29	6°21'07	14.50	G	9.80	0	0	0	WO	0	0	F	LE	
10	25	10+377			10°39'27	6°21'96												End of Road

Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Qu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		1 - Dupont Road -Rehab Junction		Survey Date		###-##-##		Surveyer		Prince Cassell		Supervisor		Adam Konneh		Road Structure		Remarks		
Road Secti No.	Sub - on No.	Check Point Name		Sub sectio n	Cross Section Location	Right of Way (m)	Carriageway		Shoulder/Sidewalk		Media Width (m)	Drainage		Terrain	Road Structure	Remarks				
		From	To				Type	Width (m)	Type	Width (m)		Type	Width (m)							
11	1	00+000	00+500	0.500	10°41'55" 6°16'47"	14.20	AC	12.24	Good	E	2.52	2.52	0	WO	0	0	F	LE	New Drain	
11	2	00+500	01+000	0.500	10°41'28" 6°16'45"	14.20	AC	12.24	Bad	E	2.52	2.52	0	WO	0	0	F	LE		
11	3	01+000	01+222	0.222	10°41'02" 6°16'38"	14.20	AC	12.24	Bad	E	2.52	2.52	0	WO	0	0	F	LE		
11	4	01+222	01+772	0.500	10°40'94" 6°16'3	11.60	E/G	9.5	V.Bad	-	0	0	0	WO	0	0	F	LE		
11	5	01+772	02+222	0.500	10°40'86" 6°16'05"	11.60	G	9.5	Bad	-	0	0	0	WO	0	0	F	LE		
11	6	02+222	02+772	0.500	10°40'71" 6°15'8"	18.30	G	11.50	Bad	-	0	0	0	NL	0.9	0.6	F	LE		
11	7	02+772	03+222	0.500	10°40'47" 6°15'68"	18.30	G	12.70	Fair	-	0	0	0	NL	0.6	0.6	F	LE		
11	8	03+222	03+772	0.360	10°40'28" 6°15'48"	18.30	G	12.70	Good	G	1.2	1.2	0	NL	0.6	0.6	F	LE		
11	9	03+772	04+222	0.500	10°40'43" 6°15'28"	18.30	G	12.70	Good	G	1.2	1.2	0	NL	0.6	0.6	F	LE		
11	10	04+222	04+772	0.500	10°40'64" 6°15'11"	18.30	G	12.70	Good	G	1.2	1.2	0	NL	0.6	0.6	F	LE		
11	11	04+772	05+222	0.500	10°40'74" 6°14'89"	11.70	G	7.10	Good	-	0	0	0	NL	0.6	0.6	F	LE		
11	12	05+222	05+312	0.090	10°40'82" 6°14'65"	10.50	ST/G	9.70	Good	-	0	0	0	WO	0	0	F	LE		
11	13	05+312	05+402	0.090	10°40'77" 6°14'63"	10.90	ST	9.60	Good	G	1.2	1.2	0	WO	0	0	F	LE		
11	14	05+402	05+902	0.500	10°40'79" 6°14'58"	24.10	ST	10.20	Good	G	1.53	1.53	0	WO	0	0	F	LE		
11	15	05+902	06+082	0.180	10°40'94" 6°14'36"	24.10	ST	10.20	Good	G	1.53	1.53	0	WO	0	0	F	LE		
11	16	06+082			10°41'00" 6°14'28"														End of Road	
	17																			
	18																			
	19																			
	20																			
	21																			
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	23																			
	24																			
	25																			

Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavemen	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment, H ≥ 2.0m)
ST (Surface Treater	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Ct (Cut H ≥ 2.0m)
CC (Cement Concrete	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#12 - S.K.D. Boulevard		Surveyer		Benjamin S. Momolu		Road Structure		Remarks										
Survey Date		10-Feb-09		Supervisor		Adam Koneh														
Sub-section No.	Check Point Name	From	To	Sub-section Length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Media n		Drainage		Terrain Structure				
					Latitude	Longitude		Width (m)	Condition	Type	Right	Left	Width (m)	Type	Right		Left	Width (m)		
12	00+000	00+500	00+500	0.500	10°42'77.5	6°16'13.5	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	New Drain
12	00+500	01+000	01+000	0.500	10°42'80.2	6°16'40	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
12	01+000	01+500	01+500	0.500	10°42'85.2	6°16'66.9	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
12	01+500	02+000	02+000	0.500	10°42'90.6	6°16'94	21.20	E	13	Fair	-	0	0	0	0	0	0	F	LE	
12	02+000	02+500	02+500	0.500	10°42'96.9	6°17'03	21.20	E	13	Fair	-	0	0	0	0	0	0	F	LE	
12	02+500	03+000	03+000	0.500	10°43'02.5	6°17'46.1	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
12	03+000	03+500	03+500	0.500	10°42'14.8	6°17'51.6	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
12	03+500	04+000	04+000	0.500	10°42'48.9	6°17'58.4	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
12	04+000	04+500	04+500	0.500	10°42'25.4	6°17'71.5	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
12	04+500	04+955	04+955	0.455	10°42'11.8	6°17'91.4	21.20	E	13	Fair	E	2	2	0	0	0	0	F	LE	
11																				
12																				
13																				
14																				
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Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#13 - Fiamah - Matadi Road		Surveyor		Benjamin S. Momolu													
Survey Date		4-Feb-09		Supervisor		Adam Konneh													
Road Section No.	Sub-section No.	Check Point Name		Sub-section Length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks		
		From	To		Latitude	Longitude		Width (m)	Condition	Type	Width (m)		Type	Width (m)				Right	Left
13	1	00+000	00+209	0.209	10°46'38.2	6°17'42.3	13.50	AC	9.4	V.Bad	E	2	2	0	0	0	F	LE	New Drain
13	2	00+209	00+709	0.500	10°46'29.0	6°17'67.1	15.20	AC	7.7	Bad	E	2	2	0	0	0	F	LE	
13	3	00+709	00+720	0.011	10°46'29.0	6°17'67.7	16.70	ST	7.7	Bad	E	2	2	0	0	0	F	LE	
13	4	00+720	01+070	0.350	10°46'18.2	6°17'83.9	15.00	ST	7.7	Good	E	2	2	0	0	0	F	LE	
13	5	01+070	01+570	0.500	10°45'96.7	6°17'96.8	17.40	ST	7.7	Good	E	2	2	0	0	0	F	LE	
13	6	01+570	02+070	0.500	10°45'75.2	6°17'82.9	16.00	ST	7.40	Good	E	2	2	0	0	0	F	LE	
13	7	02+070	02+570	0.500	10°45'66.4	6°17'57.4	16.00	ST	7.40	Good	E	2	2	0	0	0	F	LE	
13	8	02+570	02+713	0.143	10°45'66.2	6°17'49	16.00	ST	7.40	Good	E	2	2	0	0	0	F	LE	
13	9	02+713	03+117	0.404	10°45'80.8	6°17'33.8	17.80	AC	7.40	Good	E	2	2	0	0	0	R	LE	
13	10	03+117	03+617	0.500	10°45'99.2	6°17'14	22.00	AC	14.30	Good	E	2	2	0	0	0	F	LE	
13	11	03+617	03+811	0.194	10°45'08.7	6°17'08.8	22.00	AC	14.30	Good	E	2	2	0	0	0	F	LE	
12																			
13																			
14																			
15																			
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Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name: #14 - Congo Town Back Road

Road No.	Sub-section No.	Check Point Name		Sub-section Length	Cross Section Location		Right of Way (m)	Carriageway			Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks	
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type	Right		Left	Type				Right
14	1	00+000	00+500	0.500	10°43'76.2	6°16'01.1	20.40	AC	7.4	Good	E	2	1	0	0	0.9	F	LE	Drainage closed
14	2	00+500	01+000	0.500	10°43'50.3	6°15'56.9	20.40	AC	7.4	Good	E	2	1	0	0	0.9	F	LE	
14	3	01+000	01+500	0.500	10°43'27.1	6°15'50.3	20.40	AC	7.4	Good	E	2	1	0	0	0.9	F	LE	
14	4	01+500	02+000	0.500	10°43'03.9	6°15'73.4	20.40	AC	7.4	Good	E	2	1	0	0	0.9	F	LE	
14	5	02+000	02+118	0.118	10°42'56.9	6°15'76.7	20.40	AC	7.4	Good	E	2	1	0	0	0.9	R	LE	
14	6	02+118	02+618	0.500	10°42'76	6°15'59	9.50	E	5.50	V. Bad	E	0	0	0	0	0	F	LE	
14	7	02+618	03+118	0.500	10°42'58.2	6°15'56.1	17.50	E	5.50	V. Bad	E	0	0	0	0	0	F	LE	
14	8	03+118	03+618	0.500	10°42'38.2	6°15'52.3	17.50	E	5.50	V. Bad	E	0	0	0	0	0	F	LE	
14	9	03+618	03+825	0.207	10°42'25.8	6°15'24.8	17.50	E	5.50	V. Bad	E	0	0	0	0	0	F	LE	
	10																		
	11																		
	12																		
	13																		
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Carriageway / shoulder Type		Condition	Drainage Type		Terrain		Road Structure	
AC (Asphalt Pavement)		Very Bad	PC (Pre-cast Concrete)		F (Flat)		Em (Embankment H ≥ 2.0m)	
ST (Surface Treatment)		Bad	CI (Concrete/Mortar Lined)		R (Rolling)		Ca (Cut H ≥ 2.0m)	
CC (Cement Concrete)		Fair	MS (Masonry)		M (Mountainous)		LE (Level H < 2.0m)	
G (Gravel)		Good	ML (No Lining)					

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name: 15 - Pipeline Road - Johnsonville

Survey Date: #####

Surveyor: Prince Cassell
Supervisor: Adam Konehl

Road Sect No.	Sub - on No	Check Point Name		Sub section length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Media Width (m)	Drainage		Terrain	Road Structure	Remarks				
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Right	Left				Right	Left		
15	1	00+000	00+300	0.300	10°41'47"	6°17'53"	13.90	E	4.9	Bad	0	0	0	0	0	0	F	LE			
15	2	00+300	00+600	0.300	10°41'48"	6°17'71"	19.20	G	9	Fair	0	0	0	0	0	0	0.6	0.5	F	LE	
15	3	00+600	01+100	0.500	10°41'48"	6°17'80"	12.70	G	10.1	Bad	2.3	2	0	0	0	0	0.6	0.6	F	LE	
15	4	01+100	01+340	0.240	10°41'46"	6°18'23"	12.70	G	10.1	Fair	2.3	2	0	0	0	0	0.6	0.6	F	LE	
15	5	01+340	01+580	0.240	10°41'44"	6°18'36"	13.90	G	8.9	Fair	0	0	0	0	0	0	0.6	0.6	R	LE	
15	6	01+580	02+080	0.500	10°41'42"	6°18'34"	13.90	G	9.90	Bad	1.7	1.7	0	0	0	0	0.6	0.6	F	LE	
15	7	02+080	02+320	0.240	10°41'39"	6°18'81"	20.00	G	9.00	Fair	0	0	1.7	0	0	0	0.6	0.6	F	LE	
15	8	02+320	02+380	0.060	10°41'39"	6°18'55"	15.00	G	7.30	Fair	0	0	0	0	0	0	0	0	R	LE	
15	9	02+380	02+440	0.060	10°41'38"	6°19'02"	15.00	G	6.00	Fair	0	0	0	0	0	0	0.6	0.6	R	LE	
15	10	02+440	02+830	0.390	10°41'38"	6°19'05"	15.00	G	9.00	Fair	0	0	0	0	0	0	0.7	0.6	F	LE	
15	11	02+830	03+330	0.500	10°41'36"	6°19'26"	26.00	E		Y.Bad	0	0	0	0	0	0	0	0	F	LE	
15	12	03+330	03+830	0.500	10°41'33"	6°19'53"	26.00	E		Bad	0	0	0	0	0	0	0	0	F	LE	
15	13	03+830	04+330	0.500	10°41'31"	6°19'78"	26.00	E		Bad	0	0	0	0	0	0	0	0	F	LE	
15	14	04+330	04+830	0.500	10°41'28"	6°20'06"	26.00	E		Bad	0	0	0	0	0	0	0	0	F	LE	
15	15	04+830	05+330	0.500	10°41'27"	6°20'35"	26.00	E		Bad	0	0	0	0	0	0	0	0	F	LE	
15	16	05+330	05+830	0.500	10°41'24"	6°20'63"	26.00	E		Bad	0	0	0	0	0	0	0	0	F	LE	
15	17	05+830	06+330	0.500	10°41'21"	6°20'93"	26.00	E		Bad	0	0	0	0	0	0	0	0	F/R	LE	
15	18	06+330	06+830	0.500	10°41'21"	6°20'94"	26.00	E		Fair	0	0	0	0	0	0	0	0	F	LE	
15	19	06+830	07+330	0.500	10°41'22"	6°20'94"	26.00	E		Fair	0	0	0	0	0	0	0	0	F	LE	
15	20	07+330	07+450	0.120	10°41'21"	6°20'94"	26.00	E		Fair	0	0	0	0	0	0	0	0	F	LE	
15	21	07+450			10°41'14"	6°20'79"															
	22																				
	23																				
	24																				
	25																				

Carriageway / Shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Paver)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#16 - Jamaica Road - Duala		Surveyer		Joseph S. Collins, Jr													
Survey Date		#####		Supervisor		Adam Konneh													
Road No.	Sub - Section No.	Check Point Name		Sub section	Cross Section Location		Right of Way (m)	Carrigeway		Shoulder/Sidewalk		Media		Drainage		Terrain	Road Structure	Remarks	
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type	Width (m)	Right	Left	Type				Width (m)
16	1	00+000	00+388	0.388	10°46'98.8	6°20'56.3	22.50	G	8.00	V. Bad	-	0	0	0	0	0	F	LE	
16	2	00+388	00+888	0.500	10°46'94.8	6°20'82.5	10.50	G	5.00	V. Bad	-	0	0	0	0	0	F	LE	
16	3	00+888	01+388	0.500	10°46'79.2	6°20'97.7	10.50	G	5.00	V. Bad	-	0	0	0	0	0	F	LE	
16	4	01+388	01+888	0.500	10°46'97.2	6°21'13	10.50	G	5.00	V. Bad	-	0	0	0	0	0	F	LE	
16	5	01+888	01+984.6	0.097	10°46'05.9	6°21'18.7	10.50	G	5.10	V. Bad	-	0	0	0	0	0	F	LE	
16	6	01+984.6	02+484.6	0.500	10°46'84.8	6°21'35.7	15.00	CC	7.40	Fair	-	0	0	0	0	0	F	LE	
16	7	02+484.6	02+984.6	0.500	10°46'72.5	6°21'59.7	15.00	CC	7.40	Fair	-	0	0	0	0	0	F	EM	
16	8	02+984.6	03+484.6	0.500	10°46'69.4	6°22'81.1	15.00	G	7.40	Bad	-	0	0	0	0	0	F	EM	
16	9	03+484.6	03+984.6	0.500	10°46'68.3	6°22'07.8	15.00	G	7.40	Bad	-	0	0	0	0	0	F	EM	
16	10	03+984.6	04+484.6	0.500	10°46'79.5	6°22'32.1	15.00	G	7.40	Bad	-	0	0	0	0	0	F	LE	
16	11	04+484.6	04+984.6	0.500	10°46'98.8	6°22'44.6	10.50	G	5.00	Bad	-	0	0	0	0	0	F	LE	
16	12	04+984.6	05+444.6	0.465	10°47'23.2	6°22'43.4	10.50	G	5.00	Bad	-	0	0	0	0	0	R	LE	
16	13																		
16	14																		
16	15																		
16	16																		
16	17																		
16	18																		
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23																			
24																			
25																			

Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#17 - Jallah's Town Road		Survey Date		2/4-5/2009		Surveyer		Benjamin S. Momolu		Supervisor		Adam Konneh		Remarks					
Road No.	Sub Section	Check Point Name		Sub section	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width	Drainage		Terrain	Road Structure	Remarks				
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Width (m)	Right				Left	Right	Left	
17	1	00+000	00+500	0.500	10°47'63.9	6°18'17.5	17.05	AC	13.05	Fair	CC	1	1	0	0	CL	0.8	0.8	R	EM	
17	2	00+500	01+000	0.500	10°47'56.6	6°17'91.9	17.05	AC	13.05	Fair	CC	1	1	0	0	CL	0.8	0	F	LE	
17	3	01+000	01+200	0.200	10°47'49.7	6°17'84.8	16.80	AC	10.20	Fair	-	0	0	0	0	CL	0.76	0.5	F	LE	
17	4	01+200	01+465.4	0.265	10°47'36.7	6°17'79.6	16.80	CC	8.60	Fair	CC	1.76	1.76	0	0	CL	0.76	0	F	LE	
17	5	01+465.4	01+624.9	0.195	10°47'26.7	6°17'76.8	16.80	E	8.60	Bad	CC	1.76	1.76	0	0	WO	0	0	F	LE	
17	6	01+624.9	01+824.9	0.200	10°47'16.4	6°17'73	16.80	CC	8.60	Fair	CC	1.76	1.76	0	0	WO	0	0	F	LE	
17	7	01+824.9	01+899.9	0.075	10°47'12.7	6°17'71.3	16.80	E	8.60	Bad	CC	1.76	1.76	0	0	WO	0	0	F	LE	
17	8	01+899.9	02+102.3	0.202	10°47'02.4	6°17'67.4	16.80	CC	8.60	Fair	CC	1.76	1.76	0	0	WO	0	0	F	LE	
17	9	02+102.3	02+116.3	0.014	10°47'01.4	6°17'67.1	16.80	E	8.60	Fair	CC	1.76	1.76	0	0	WO	0	0	F	LE	
17	10	02+116.3	02+332.3	0.216	10°46'91	6°17'62.3	16.80	CC	8.60	Fair	CC	1.76	1.76	0	0	WO	0	0	F	LE	
17	11	02+332.3	02+334.3	0.012	10°46'90	6°17'62.2	16.80	E	8.60	Fair	CC	0	0	0	0	WO	0	0	F	LE	
17	12	02+334.3	02+438.8	0.095	10°46'92.1	6°17'57.6	13.70	AC	9.40	Fair	CC	1.8	1.8	0	0	WO	0	0	F	LE	
14	14																				
15	15																				
16	16																				
17	17																				
18	18																				
19	19																				
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22	22																				
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Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Ou (Out H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/ drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name #18 - New Georgia - Barnesville

Survey Date 17-Feb-09

Surveyor Benjamin S. Momolu

Supervisor Adam Konneh

Road No.	Sub-section No.	Check Point Name		Sub-section Length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Median Width (m)	Drainage		Terrain	Road Structure	Remarks		
		From	To		Latitude	Longitude		Type	Width (m)	Condition	Type		Width (m)	Right				Left	Right
18	1	00+000	00+500	0.500	10°45'29.6	6°20'44.5	17.20	AC	7.00	Fair	E	2	2	0	0	0	F	LE	
18	2	00+500	01+000	0.500	10°45'45.5	6°20'55	17.20	AC	7.00	Fair	E	2	2	0	0	0	F	LE	
18	3	01+000	01+500	0.500	10°45'41.5	6°20'59.9	17.20	AC	7.00	Fair	E	2	2	0	0	0	F	EM	Swampy
18	4	01+500	02+000	0.500	10°45'41	6°21'18.9	17.20	AC	7.00	Fair	E	2	2	0	0	0	F	LE	
18	5	02+000	02+078	0.078	10°45'40.5	6°21'22.2	17.20	AC	7.00	Bad	E	2	2	0	0	0	F	LE	
18	6	02+078	02+578	0.500	10°45'22.9	6°21'36.3	26.00	E	6.00	Bad	-	0	0	0	0	0	F	LE	
18	7	02+578	03+078	0.500	10°45'19.1	6°21'59.5	26.00	E	6.00	Bad	-	0	0	0	0	0	F	LE	
18	8	03+078	03+578	0.500	10°44'00.1	6°21'17.1	26.00	E	6.00	Bad	-	0	0	0	0	0	F	LE	
18	9	03+578	03+688	0.110	10°44'95.5	6°21'174.8	26.00	E	6.00	Bad	-	0	0	0	0	0	F	LE	
18	10	03+688	04+188	0.500	10°44'69.6	6°21'71.1	26.00	E	6.00	Bad	-	0	0	0	0	0	F	LE	
18	11	04+188	04+338	0.150	10°44'62.8	6°21'57.5	26.00	E	6.00	Bad	-	0	0	0	0	0	F	LE	
18	12	04+338	04+838	0.500	10°44'27.2	6°21'43.2	24.00	AC	7.60	V. Bad	E	2	3	0	0.5	0	F	LE	
18	13	04+838	05+338	0.500	10°44'01.2	6°21'36.2	24.00	AC	7.60	Fair	E	2	2	0	0	0	F	LE	
18	14	05+338	05+513	0.175	10°43'91.8	6°21'34.4	24.00	AC	7.60	Fair	E	2	2	0	0	0	F	LE	
18	15																		
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Carriageway / Shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Ou (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		
E (Earth)		WO (Without side ditch/ drainage)		

Road Inventory Survey for The Master Plan Study on Urban Facilities Restriction and Improvement in Morovia

Road No and Name		#19 - Old Road		Survey Date		9-Feb-09		Surveyor		Benjamin S. Momolu		Supervisor		Adam Konneh		Road Structure	
Road No.	Sub Section No.	Check Point Name		Sub section Length	Cross Section Location		Right of Way (m)	Carriageway		Shoulder/Sidewalk		Media Width (m)	Drainage		Terrain	Remarks	
		From	To		Latitude	Longitude		Type	Width (m)	Type	Width (m)		Type	Right			Left
19	1	00+000	00+500	0.500	10°45'54.9	6°17'00.3	16.40	AC	7.50	Good	E	2	WO	0	F	LE	
19	2	00+500	01+000	0.500	10°45'40.6	6°16'52	21.50	AC	7.50	Good	E	2	WO	0	F	LE	
19	3	01+000	01+500	0.500	10°45'14.7	6°16'08.9	21.50	AC	7.50	Good	E	2	WO	0	F	LE	
19	4	01+500	02+000	0.500	10°44'09.8	6°16'74.1	21.50	AC	7.50	Good	E	2	WO	0	F	LE	
19	5	02+000	02+500	0.500	10°44'56.6	6°16'50.9	21.50	AC	7.50	Good	E	2	WO	0	F	LE	
19	6	02+500	02+880	0.380	10°44'73.3	6°16'01.5	21.50	AC	7.50	Good	E	2	WO	0	F	LE	
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Carriageway / shoulder Type	Condition	Drainage Type	Terrain	Road Structure
AC (Asphalt Pavement)	Very Bad	PC (Pre-cast Concrete)	F (Flat)	Em (Embankment H ≥ 2.0m)
ST (Surface Treatment)	Bad	CL (Concrete/Mortar Lined)	R (Rolling)	Cu (Cut H ≥ 2.0m)
CC (Cement Concrete)	Fair	MS (Masonry)	M (Mountainous)	LE (Level H < 2.0m)
G (Gravel)	Good	NL (No Lining)		