

## 《資料編》

1. 調査団員・氏名
2. 調査工程
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4. 討議議事録（ミニッツ）
5. 基本設計概要表
6. 技術資料

# 1 . 調査団員・氏名



## 2 . 調査工程

## 資料-2 調査工程

### 2.1 現地調査工程

日程			団長 乾 英二	プロジェクトコーディネーター 稲本美紀	業務主任/道路計画/環境社会配慮 武藤寿	道路設計/自然条件調査(地形) 大隅秀憲	施工計画/積算 小川基樹	
1	2004/9/4	Sat			NRT HKG JNB			
2	2004/9/5	Sun			JNB LUN			
3	2004/9/6	Mon	表敬訪問 (EOJ、JICA、MLGH、LCC)					
4	2004/9/7	Tue	現地調査			現地調査		
			MLGH/LCC協議					
5	2004/9/8	wed	MLGH/LCC協議			地形測量及び地質調査発注準備		
6	2004/9/9	Thu	ミニッツサイン					
7	2004/9/10	Fri		LUN JNB	工程会議			
8	2004/9/11	Sat		HKG NRT	社会環境配慮に関する現地調査			
9	2004/9/12	Sun			既設舗装調査			
10	2004/9/13	Mon			既設施設調査			
11	2004/9/14	Tue			交通量調査			
12	2004/9/15	wed			他ドナーによる案件調査 地盤状況調査 無償資金協力による妥当性の調査 相手国政府の負担事項の確認	既設排水調査 地盤状況調査 出入口調査 既設構造物調査	調達状況調査 施工計画調査 積算調査	
13	2004/9/16	Thu						
14	2004/9/17	Fri						
15	2004/9/18	Sat						
16	2004/9/19	Sun						
17	2004/9/20	Mon						
18	2004/9/21	Tue						
19	2004/9/22	wed						
20	2004/9/23	Thu						
21	2004/9/24	Fri						
22	2004/9/25	Sat						
23	2004/9/26	Sun			工程会議			
24	2004/9/27	Mon			JICA・MLGH、LCCへの報告			
25	2004/9/28	Tue			LUN JNB			
26	2004/9/29	wed			JNB HKG NRT			

NRT:成田、HKG:香港、JNB:ヨハネスブルグ、JUN:ルサカ

### 2.2 事業化調査成果概要書の現地調査工程

日程			団長 乾 英二	業務主任/道路計画/環境社会配慮 武藤寿	道路設計/自然条件調査(地形) 大隅秀憲
1	2005/1/24	Mon		NRT HKG JNB	
2	2005/1/25	Tue		JNB LUN	
3	2005/1/26	Wed	JICA、EOJ表敬訪問		
			MLGH、LCC表敬訪問及び協議		
4	2005/1/27	Thu	AM:DBDレポートの説明、PM:MLGH及びLCCとの協議		
5	2005/1/28	Fri	M/DについてMLGH及びLCCとの協議		
6	2005/1/29	Sat		DBDレポート準備	
7	2005/1/30	Sun			
8	2005/1/31	Mon	M/D及びサインについてMLGH及びLCCと協議		
9	2005/2/1	Tue		LUN JNB HKG	
10	2005/2/2	Wed		HKG NRT	

NRT:成田、HKG:香港、JNB:ヨハネスブルグ、JUN:ルサカ

### 3 . 関係者（面会者）リスト

資料 3 . 関係者 ( 面会者 ) リスト

日本大使館

古賀 達朗 一等書記官  
財津 知亨 二等書記官

JICA ザンビア事務所

前田 憲次 所員

地方自治住宅省

Mr. Maswabi Maimnolwa	Permanent Secretary
Mr. Bruno Hamusonde	Administrative Director
Mr. Nkumbu Sianne	Senior Engineer
Mr. Richard Kamhwa	Senior Engineer

ルサカ市

Mr. Francis Muwowo	Town Clerk & Chief Executive
Mr. Luanga Bornwell	Director – Engineering Services
Mr. Wallace Mumba	Assistant Director - Engineering Services
Mr. Gershom Mwagomba	Senior Engineer
Mr. Andrew Zulu	Senior Engineer

財務省

鶴崎 恒雄 専門家〔援助調整〕

## 4 . 討議議事録（ミニッツ）



**Minutes of Discussions**  
**on the Implementation Review Study on the Project for**  
**Improvement and Maintenance of Lusaka City Roads (Phase III)**  
**in the Republic of Zambia**

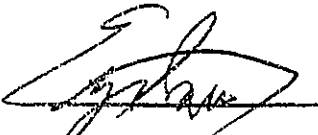
As response to the request from the Government of the Republic of Zambia (hereinafter referred to as "GRZ"), the Government of Japan decided to conduct an Implementation Review Study on the Project for Improvement and Maintenance of Lusaka City Roads (Phase III) (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

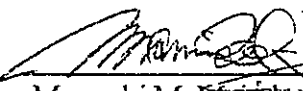
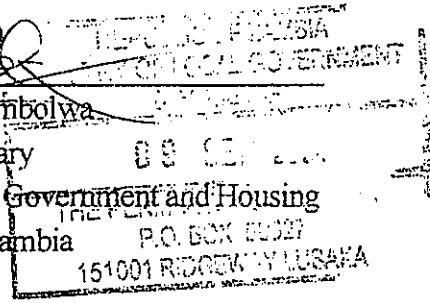
JICA sent to Zambia the Implementation Review Study Team (hereinafter referred to as "the Team"), headed by Eiji Inui, Resident Representative of the JICA Zambia Office, which is scheduled to stay in the country from September 5 to 27, 2004.

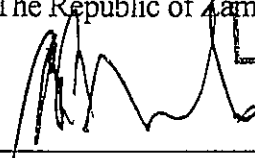
The Team held discussions with the concerned officials of the Government of the Republic of Zambia.

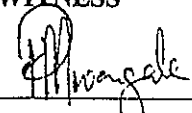
In the course of the discussions, both sides confirmed the main items as described in the attachments. Thereafter, the Team should proceed with preparation of the Implementation Review Study Report.

Lusaka, September 9, 2004

  
\_\_\_\_\_  
Eiji Inui  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency

  
\_\_\_\_\_  
Maswabi M. Maimbolwa  
Permanent Secretary  
Ministry of Local Government and Housing  
The Republic of Zambia  


  
\_\_\_\_\_  
Francis M. Muwowo  
Town Clerk  
Lusaka City Council

WITNESS  
  
\_\_\_\_\_  
P.N. Mwangala (Mrs)  
Permanent Secretary  
Ministry of Finance and National Planning  
The Republic of Zambia

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## ATTACHMENT

### 1. Objective

The objective of the Project is to improve four selected (4) collector roads in the City of Lusaka.

### 2. Project Site

The sites of the Project are shown in *Annex-1*.

### 3. Responsible and Implementing Organizations

- (a) The Responsible Ministry is the Ministry of Local Government and Housing (MLGH).
- (b) The Implementing Agency is the Lusaka City Council.
- (c) The organization chart of Implementing Agency is shown in *Annex-2*.

### 4. Components Requested by GRZ.

#### (i) Original Request

The following items were confirmed to have been initially requested by GRZ: -

- (a) Bauleni Road 1.0km (from intersection with Leopards Hill Road to Prince Takamado Basic School)
- (b) Kaleya-Ngombe Road 0.9km (from Libala road to Ng'ombe Market)
- (c) Kasangula Road 5.0km (from intersection with Great north Road to Libala road intersection)
- (d) Chitanda Road 2.5km (from intersection with Commonwealth Avenue to Chunga Bus Station)

The Team will put the priority and assess the appropriateness of each component and the final components of the Project will be decided by the Japanese side after further studies in Japan.

#### (ii) Additional request by GRZ was made for the following items :- -

- (a) Chitanda Road- to be extended to 3.0km to reach Chunga Cemetery road (at the JICA School-Nelson Mandela Basic School). The proposed extension was found to be necessary because it passes through social services such as: -
  - The new market under construction.
  - The Clinic
  - The Police Post
  - Nelson Mandela Basic School (School built under JICA Schools programme)
  - Access to Chunga Cemetery

#### (b) Bauleni Road- the drain to be constructed in the following areas: -

- The drain that passes through Bauleni compound connecting to the stream about 500m
- The drain to the valley (eastern side) about 300m

The reason for the above drains is to provide enough capacity of the drain and avoid flooding of Bauleni compound.

#### (c) Drainage System- the earth drains to be lined with concrete (*Annex 6*) to: -

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- Reduce erosion of the drainage and road edge
- Avoid early damage to the drain channel
- Easier maintenance of the drainage system

The Team confirmed that they will convey the above three requests to JICA Head Quarters in Tokyo.

#### 5. Japan's Grant Aid Scheme

- (1) The Zambian side understands the Japanese Grant Aid Scheme and the necessary measures to be taken by the Government of Zambia as explained by the Team and described in Annex-3.
- (2) The Zambian side promised to take necessary measures, as described in Annex-4, to ensure a smooth implementation of the Project in accordance with Japanese Grant Aid conditions.

#### 6. Schedule of the study

- (1) The Team will proceed with further studies in Zambia from 5 to 27 September 2004.
- (2) The Team will prepare the Review Report in English and JICA Zambia Office will explain its contents to the Zambian side around the beginning of November 2004.
- (3) The draft report will be prepared in English and a team will be dispatched to Zambia in order to explain its contents to the Zambian side around mid January 2005.
- (4) After receiving comments on the draft report from the Government of the Republic of Zambia, JICA will prepare the final report and send it to the Government of the Republic of Zambia around the end of March 2005.

#### 7. JICA Guidelines for Environmental and Social Considerations

The Team explained outline of the JICA Guidelines for Environmental and Social Considerations (hereinafter referred to as "the new JICA Guidelines"). The Zambian side took the new JICA Guidelines into consideration.

#### 8. Information Disclosure

Both sides agreed that information disclosure shall be implemented regarding all the studies and surveys.

#### 9. Explanation of the Policy of the Government of Japan

The Team explained the present policy of the Government of Japan as follows:

- (1) The Ministry of Foreign Affairs of Japan (hereinafter referred to as "MOFA") will make its own Environmental and Social Considerations Guideline for Grant Aid Project, referring to the new JICA Guidelines, too. MOFA will set down critical path(s) for each stage of projects from the viewpoints of the Environmental and Social Considerations (hereinafter referred to as "the ESC") especially for the resettlement issues.
- (2) MOFA may suspend the implementation of projects unless otherwise the appropriate process of the ESC is followed.
- (3) Specifically the benchmark for the start of the Detailed Design Study and the implementation stage of projects should be determined for each project. Both parties agreed that the benchmarks for the start of the Detailed Design Study and implementation stage of the Project should be as indicated below. Also refer to the attached schedule of activities as agreed by the Lusaka City Council - Annex 5

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- To conduct public awareness campaigns to local residents/stakeholders and obtain their general consensus. The awareness campaigns will involve public meetings and publication of brochures/posters regarding the project in the project areas.
- To identify and arrange for relocation and protection of public utilities with all utility companies (Zambia Electricity Supply Corporation, Zambia Telecommunication Company, Lusaka Water and Sewerage Company, Lusaka City Council) before the commencement of the construction works.
- To obtain the general approval from the Environmental Council of Zambia (ECZ) for the Project.
- To obtain consensus from all the Project Affected Persons (PAPs) about the removal of the hedges grown within the road reserve by the few residents along the project roads.
- To arrange for the Site office, borrow pit and material stockpile area before commencement of the construction works.

#### 10. Other Relevant Issues

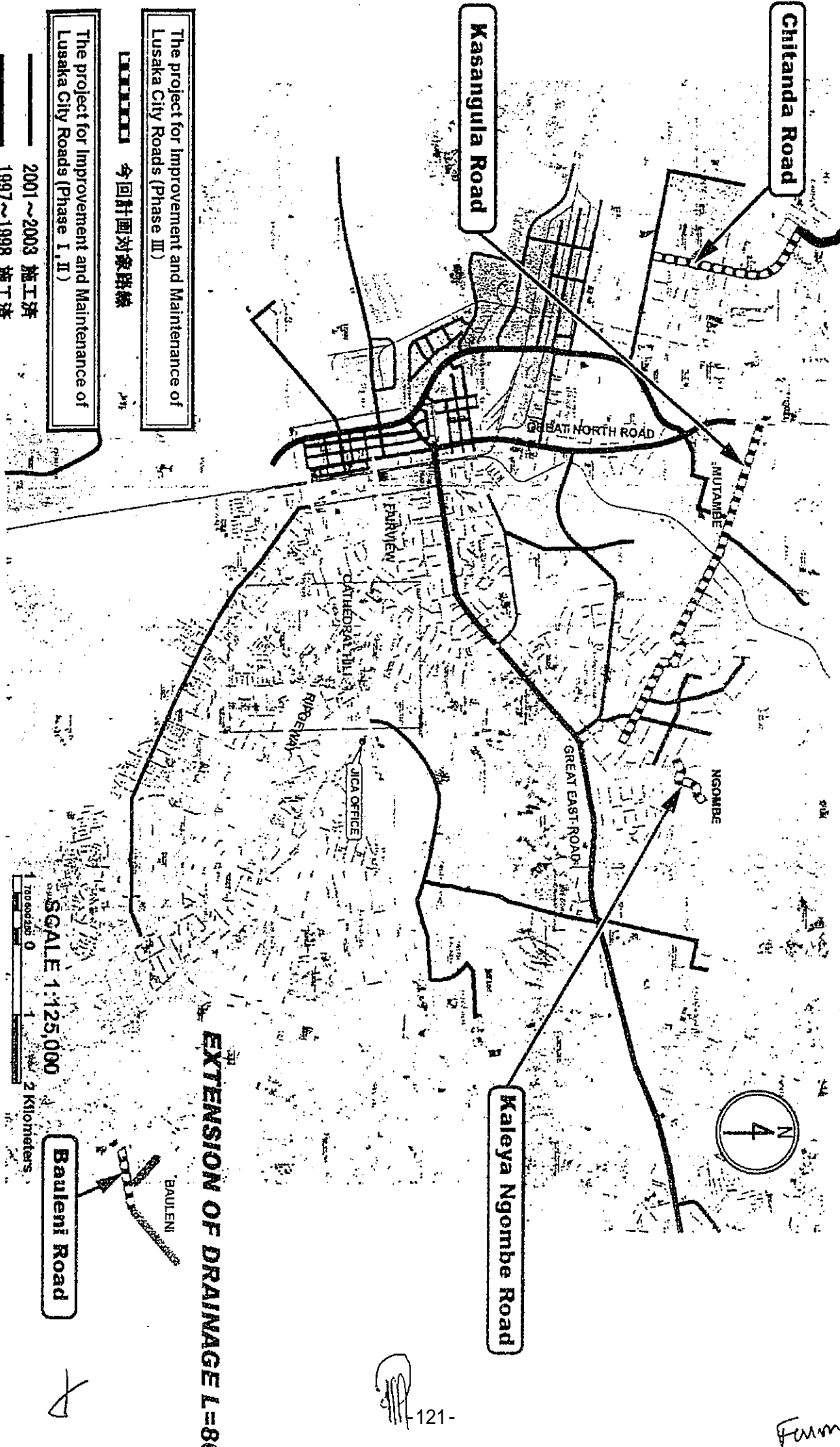
1. The Zambian side will submit answers in English to the Questionnaire, which the Team handed to the Zambian side, by *17<sup>th</sup> September 2004*.
2. The Zambian side will provide necessary number(s) of counterpart personnel to the Team during the study period in Zambia.
3. The Zambian side will provide security measures for the Study Team during the site surveys and construction stage.



**EXTENSION OF ROAD L=500m LOCATION MAP**

S=1:125,000

**ANNEX-1**



The project for Improvement and Maintenance of Lusaka City Roads (Phase III)

The project for Improvement and Maintenance of Lusaka City Roads (Phase I, II)

2001~2003 施工済  
1997~1998 施工済

SCALE 1:125,000  
0 1 2 Kilometers

**EXTENSION OF DRAINAGE L=800m**

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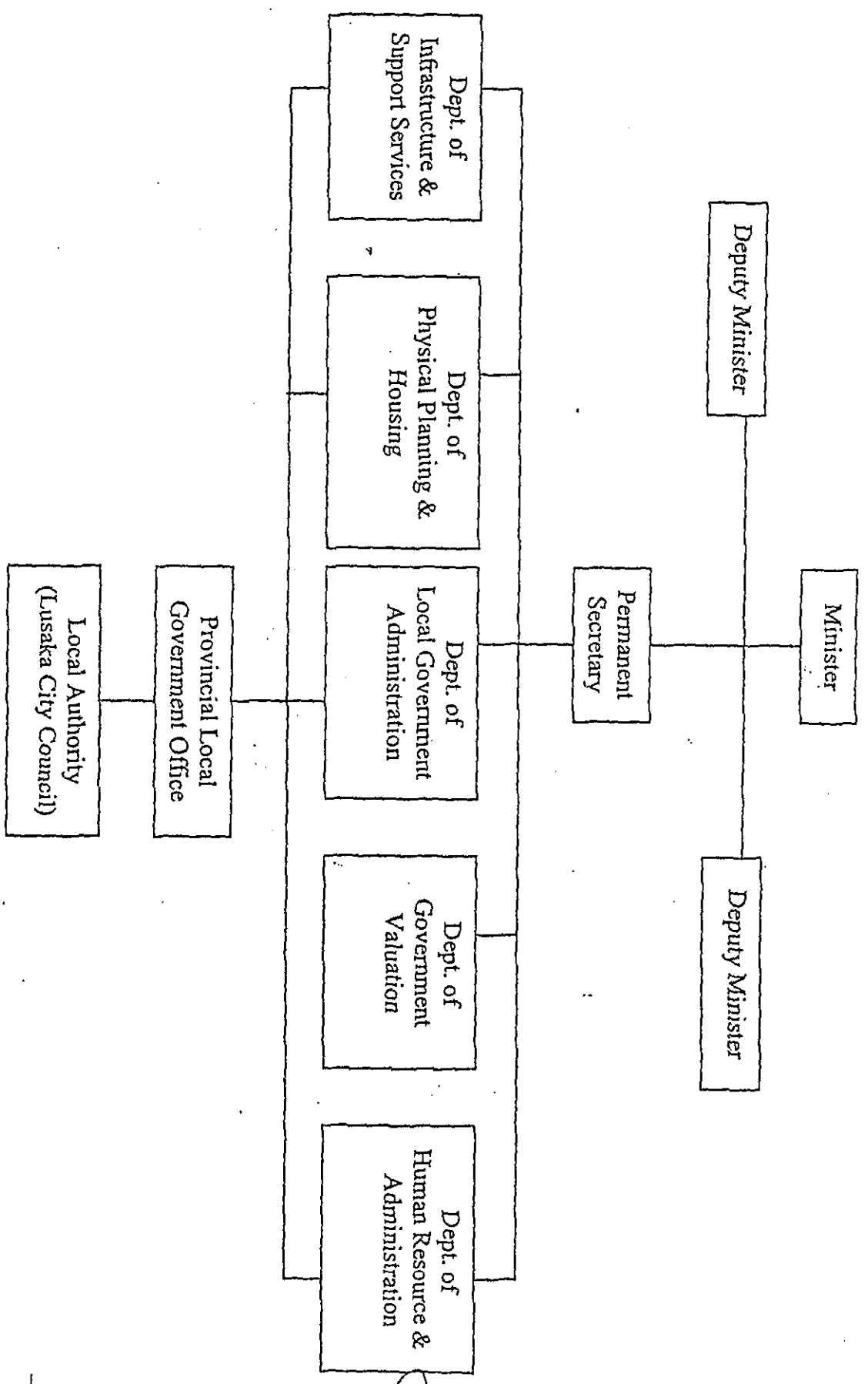
ANNEX 2 – ORGANISATION CHART OF THE IMPLEMENTATION AGENCY

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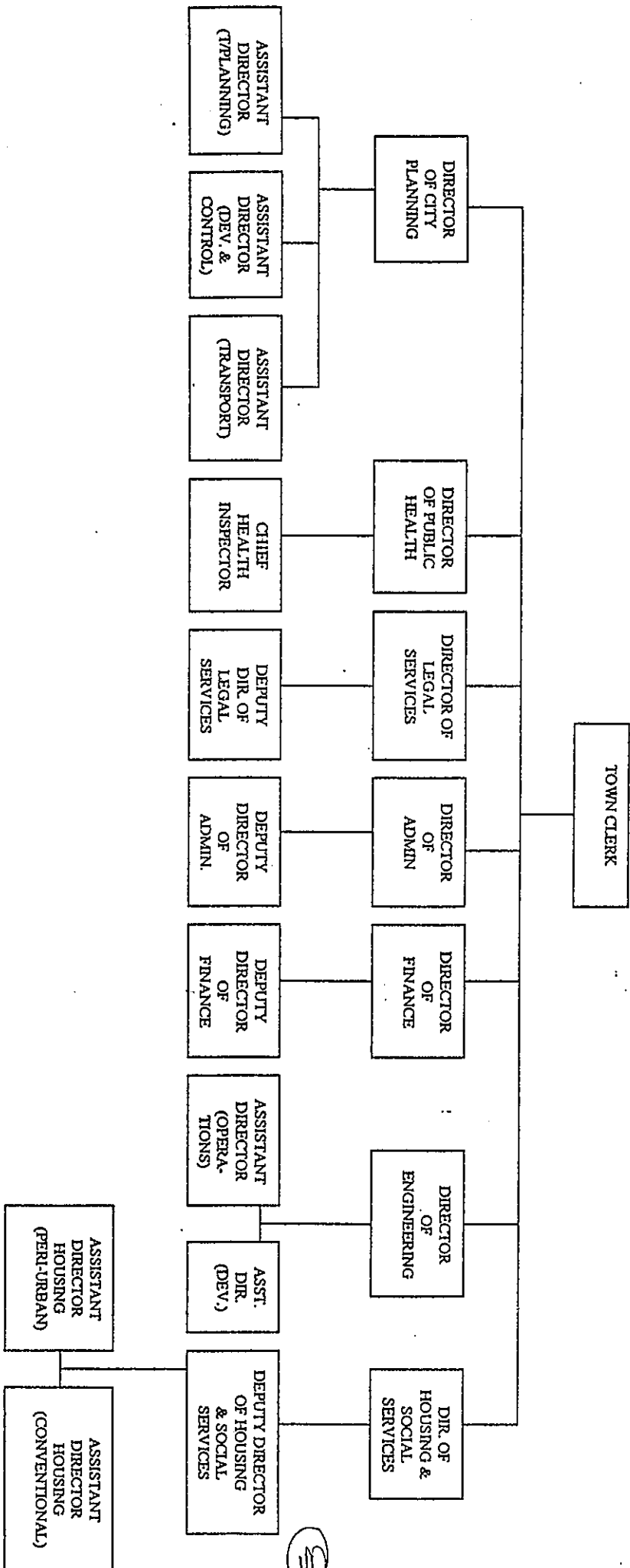
Ministry of Local Government and Housing



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# LUSAKA CITY COUNCIL



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## Japan's Grant Aid Scheme

The Grant Aid scheme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

### 1. Grant Aid Procedures

Japan's Grant Aid scheme is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid scheme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the smooth implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

### 2. Basic Design Study

#### 1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid scheme from a technical, social and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.

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- Preparation of a basic design of the Project
- Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is (are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

2) "The period of the Grant Aid" means the one fiscal year, which the Cabinet approves, the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consulting firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as natural disaster, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

5) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

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- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- b) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) To secure buildings prior to the procurement in case the installation of the equipment.
- d) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- e) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- f) To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

6) "Proper Use"

The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

7) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay (A/P) issued by the Government of the recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and Payment commissions to the Bank.

## Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		•
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		•
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		•

(B/A: Banking Arrangement, A/P: Authorization to Pay)

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## RESPONSIBILITIES AND SCHEDULE BY THE LUSKA CITY COUNCIL

ANNEX 5

NO	DESCRIPTION OF ACTIVITY	PERIOD	REMARKS	Submission of progress Report to JICA
1	<b>Awareness capmaigns</b>			
a	Correspondences to Members of Parliament/Area Councillors/Resident Development Committees	08 to 10 Sept 04	Letters from LCC	1
b	Discussions with Members of Parliament/Area Councillors/Resident Development Committees/Residents	13 to 24 Sept 2004	Meetings to introduce the projecthall be held	
c	General capmaigns compound by compound	4 Oct 2004 onwards	Continued until completion of project	
d	Brochures for distribution in Mini Bus buses and other motorists	4 Oct 2004 onwards	Continued until completion of project	
2	<b>Relocation of utilities - ZESCO/ZAMTEL/LWSC/LCC</b>			
a	Correspondences	8 to 10 Sept 04	General inframation and setting of start up meetings	
b	Site Inspection including trial pits to verify loaction and depth	14 to 24 Sept 04	Actaul dates will be set with each utility company	
c	Relocation/Protection of utilities	Jan to Apr 2005		07-May-05
3	<b>Acquisition of Borrow Pit</b>			
a	Identification	13 Sept to 8 Oct 2004	To consider B/Pit used under Phase 2	
b	EPB submission and Approval by ECZ	18 Oct to 26 Nov 2004	To submit 6 original copies through MLGH	10-Dec-04
4	<b>General Project Environmental Project Brief to ECZ</b>			
a	Submission	By 24 Sept 04	To submit 6 original copies through MLGH	
b	Approval	Expected by 29 Oct 04	This is approved by Technical Team of the ECZ	08-Nov-04
5	<b>Discussions with other stakeholders - Zambia Police,National Roads safety Council,Energy Regulation Board,National Roads Board,</b>	From 13 Sept 04 onwards	This is will be on going as and when it is necessary	
6	<b>Confirmation of Right of Way</b>	14 to 24 Sept 04	To confirm this together with City Planning Department	08-Oct-04

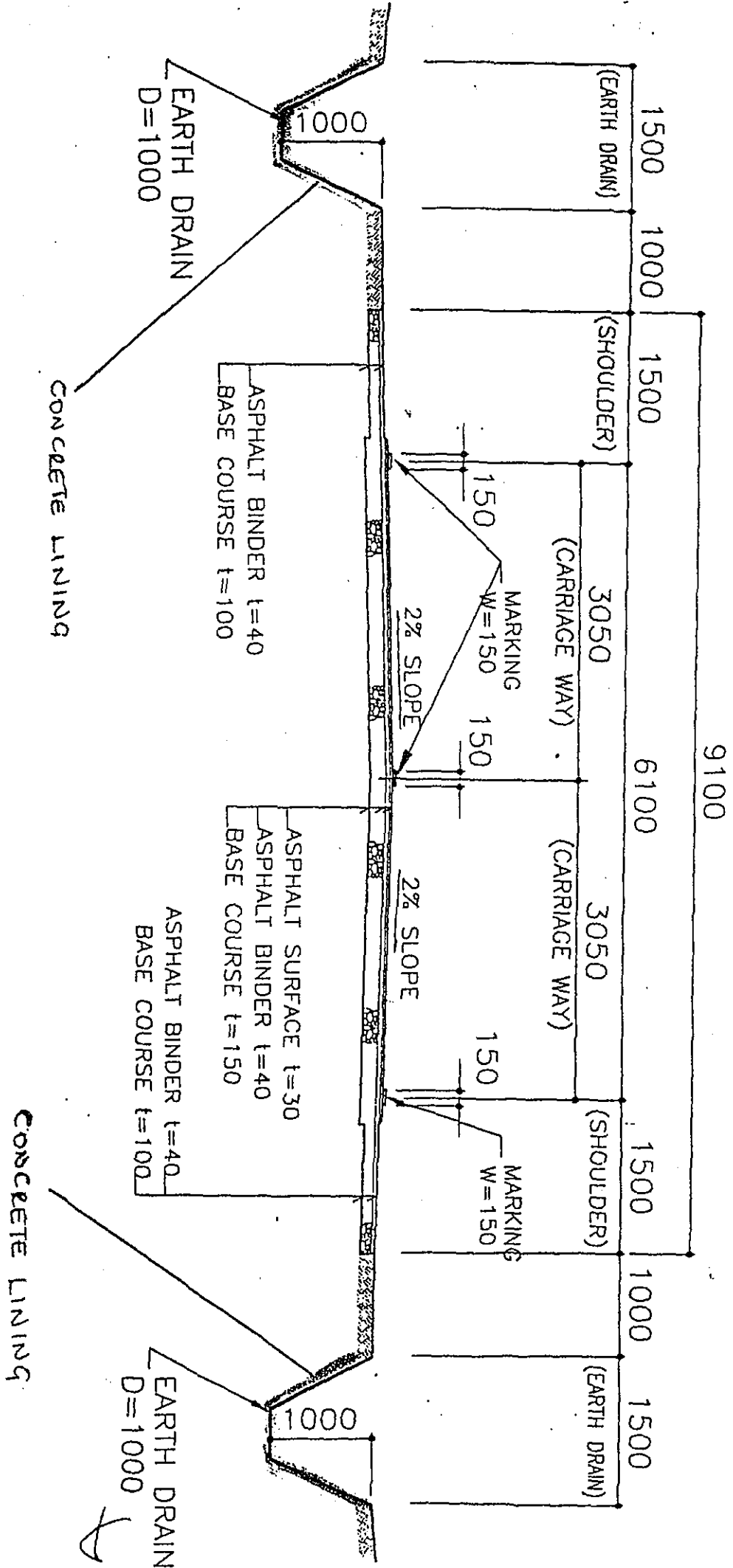
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# TYPICAL ROAD CROSS SECTION

ANNEX 6



**Minutes of Technical Discussions  
of the Results of Field Survey  
on the Implementation Review Study on the Project for  
Improvement and Maintenance of Lusaka City Roads (Phase III)  
in the Republic of Zambia**

As response to the request from the Government of the Republic of Zambia (hereinafter referred to as "GRZ"), the Government of Japan decided to conduct an Implementation Review Study on the Project for Improvement and Maintenance of Lusaka City Roads (Phase III) (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Zambia the Implementation Review Study Team (hereinafter referred to as "the Team"), headed by Eiji Inui, Resident Representative of the JICA Zambia Office, which is scheduled to stay in the country from September 5 to 27, 2004.

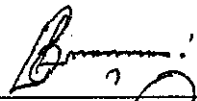
The Team conducted various field surveys and confirmed the following findings on the technical items for further design of the Project. The Team reported the results of the field survey to the LCC and held discussions with the concerned officials of the Government of the Republic of Zambia.

In the course of the discussions, both sides confirmed the main items as described in the attachments. Thereafter, the Team should proceed with preparation of the Implementation Review Study Report.


Lusaka, September 24, 2004



Hisashi Muto  
Chief Consultant  
Basic Design Study Team  
Japan International Cooperation Agency



Bornwell L. Luanga  
Director of Engineering Department  
Lusaka City Council



Bruno Hamusonde  
Assistant Director  
Department of Infrastructure and Support Services  
Ministry of Local Government and Housing

## ATTACHMENT

### MINUTES OF TECHNICAL MEETING - LUSAKA CITY COUNCIL AND JICA STUDY TEAM FOR THE PROJECT FOR THE IMPROVEMENT AND MAINTENANCE OF LUSAKA CITY ROADS PHASE III

Having studied the proposed designs for the project roads, Lusaka City Council wishes to comment as follows:

1. The typical cross section of the roads shall be 12m width as indicated in the drawings and as agreed by both sides basically.
2. Modifications shall be done to the sections where need arises depending on the availability of right of way as indicated on the attached drawings and as agreed by both sides.

Lusaka City Council wishes to make further requests in order of priority as indicated below:

#### **1. DRAINAGE**

The Lusaka City Council has requested the J.I.C.A study team to consider carrying out extra drainage works on the outlet drains from all the project roads as indicated on the attached drawings. This will enable safe discharge of storm water to the discharge streams through built up areas. To make easy construction of the outlet drain in Bauleni compound, the road along the discharge drain will require regravelling. The Study Team agreed to convey this request to J.I.C.A Headquarters for consideration.

#### **2. KASANGULA ROAD**

- a. It is proposed that the junction at Kasangula and Great North road be a channelised intersection to facilitate smooth flow of traffic.
- b. Extra paving works is necessary from Kasangula road to Chipata Clinic about 100m. This is the only clinic for the surrounding area i.e. Roma, Olympia, Garden, Chipata, Mandevu and Marapodi compounds.
- c. Bollards or chevrons will be required on all sharp curves along Kasangula road
- d. Provision of concrete lined open drains passing through residential properties with gratings at the inlet and outlet points of outlet No.9 near the Station No. 39. Lusaka City Council shall rebuild any walls that will need to be broken.

The Study Team will convey this request to J.I.C.A Headquarters for consideration.

#### **3. BUS STOPS AND SPEED HUMPS**

Bus stops and speed humps along the project roads shall be located as indicated on the attached drawings. Bus stops shall be staggered to avoid congestion. Further bollards shall be provided on both sides of the speed humps to prevent motorists from avoiding the humps. The Study Team agreed to convey this request to J.I.C.A Headquarters for consideration.



#### **4. ROAD SIGNS / STREET NAMES**

These are very important and therefore it was proposed that all the project roads be provided with the required signs and road names. The Study Team agreed to convey this request to J.I.C.A Headquarters for consideration.

#### **5. EXTENSIONS AT JUNCTIONS**

Paving at junctions on the project roads must be extended by at least 5m into the non-project roads. The Study Team agreed to convey this request to J.I.C.A Headquarters for consideration.

#### **6. CONCRETE PEDESTRIAN SLABS ACROSS DRAINS**

Pedestrian concrete slabs shall be provided at selected points along the drains for all the project roads. The Study Team agreed to convey this request to J.I.C.A Headquarters for consideration

#### **7. TRAINING OF LUSAKA CITY COUNCIL ENGINEERS**

The City council has requested J.I.C.A through the J.I.C.A study team to provide training for the Engineers in the Engineering Department who are involved in road planning and maintenance. See attached letter. The Study Team agreed to convey this request to J.I.C.A Headquarters for consideration

#### **OTHER ISSUES**

As regards the General Obligations of the recipient Government, Lusaka City Council agrees as follows:

##### **A. ACQUISITION OF LAND**

The Lusaka City Council shall acquire the necessary land for the implementation of the project. Attached is procedure for acquisition of land.

##### **B. SECURITY**

The City Council with the assistance of the Ministry of Home Affairs shall ensure the safety of the contractor's workers and equipment during the implementation of the project. Further, community leaders through the Residents Development Committees will also assist to ensure security in the project areas.

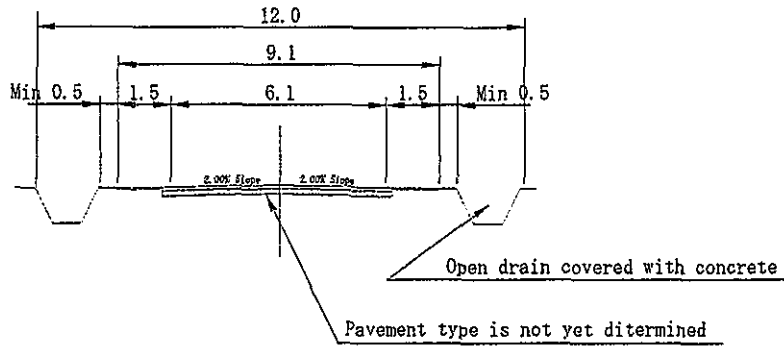
##### **C. PROJECT ACCEPTANCE**

The City Council has approached the residents around the project roads through community leaders. Please refer to the attached acceptance letters for the project from the residents.

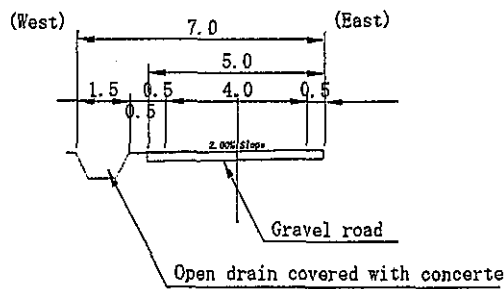
##### **D. BORROW PIT**

The Lusaka City Council agreed to secure a borrow pit with suitable material for use on the project before commencement of works.

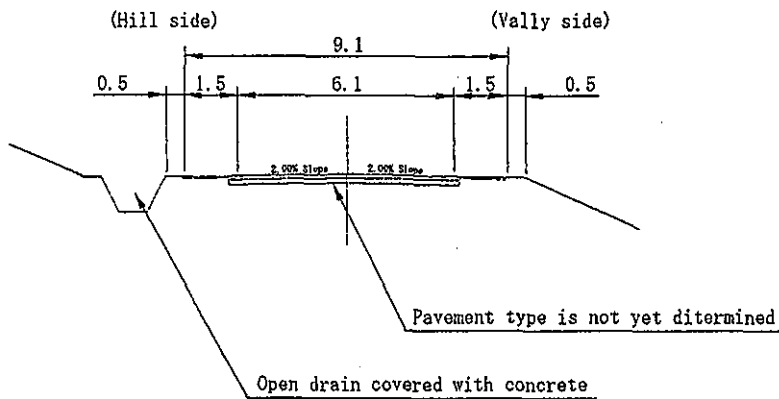
### Typical Cross Section



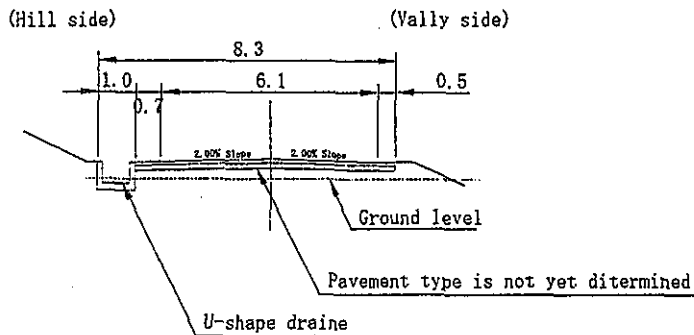
Typical cross section for  
inside the compound (Bauleni Road)



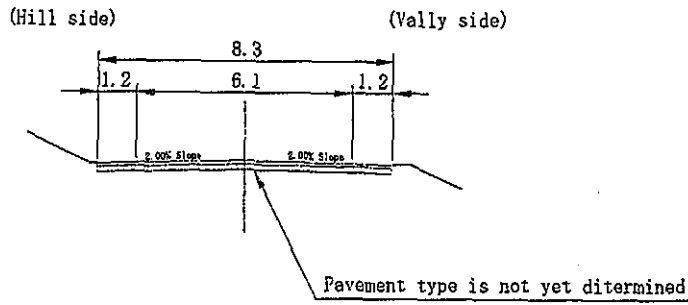
Typical cross section for  
No.0 to No.3 (Kaleya N'gonbe Road)



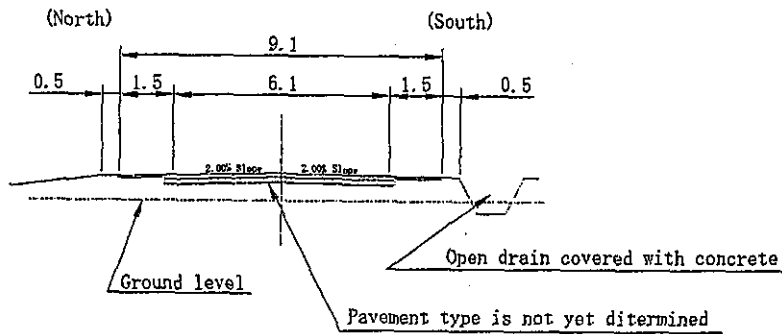
Typical cross section for  
No.3 to No.5 (Kaleya N'gonbe Road)



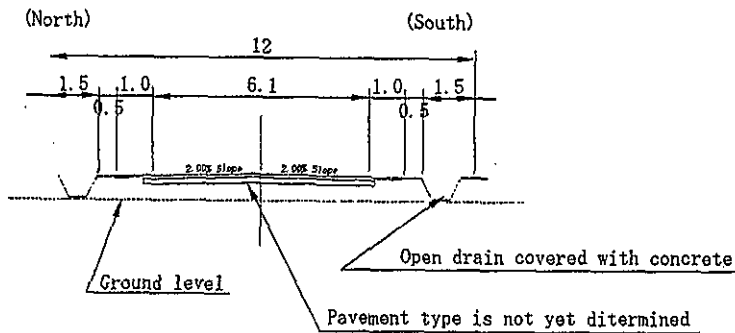
Typical cross section for  
No.5 to EP (Kaleya N'gonbe Road)



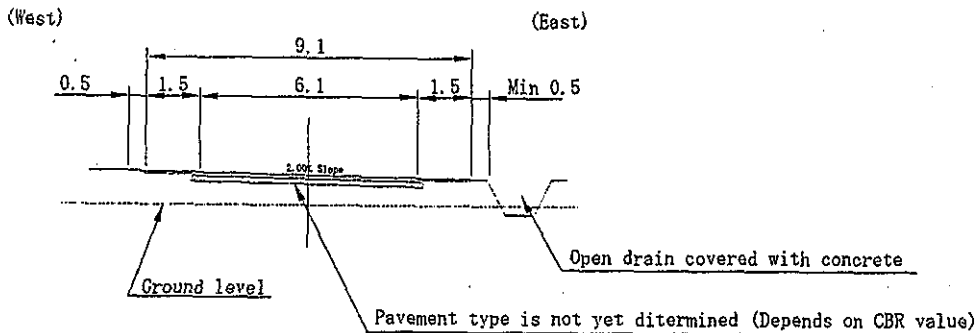
Typical cross section for  
No.0 to No.14 (Kasangula Road)

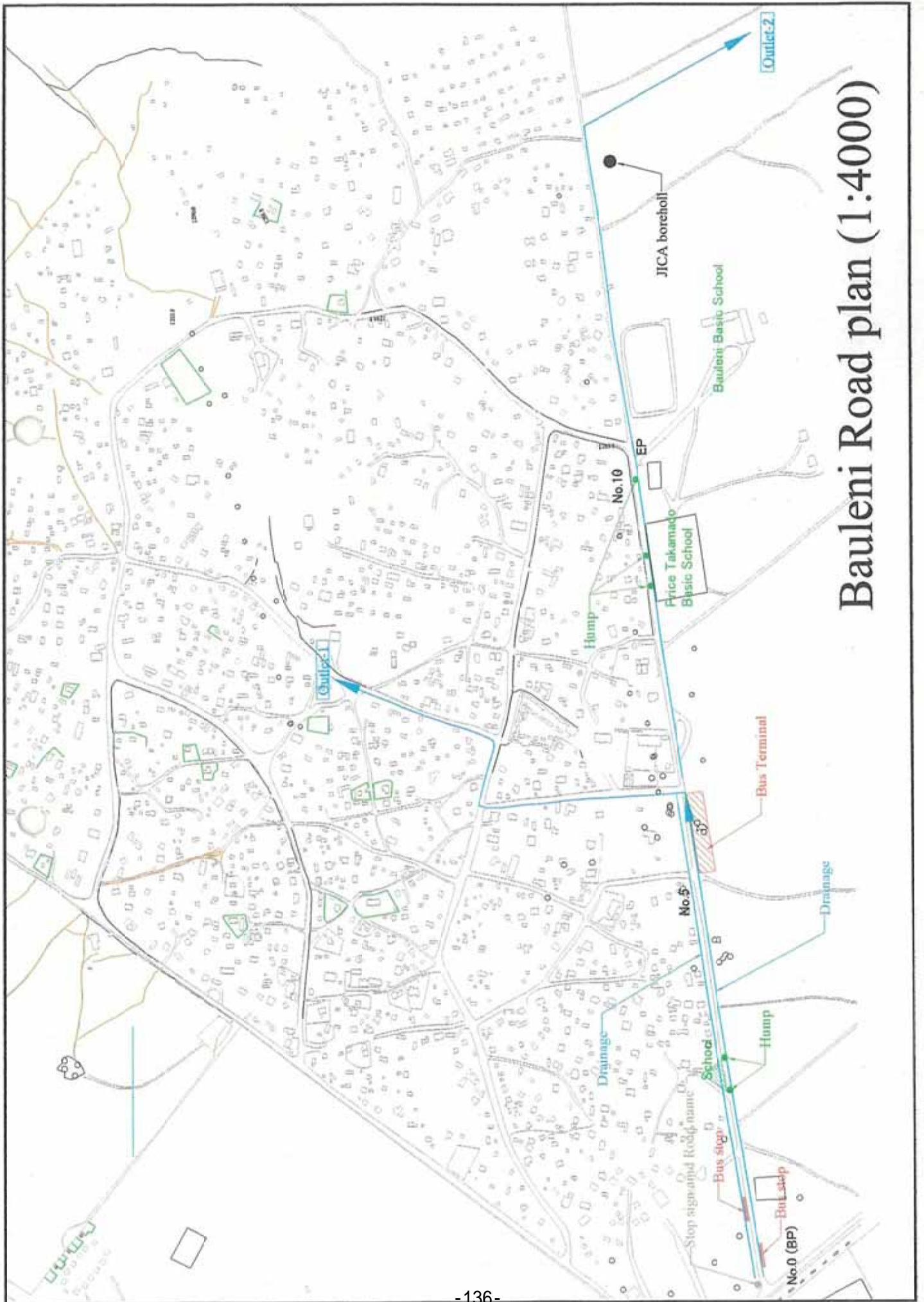


Typical cross section for  
No.16+50 to No.22+20 (Kasangula Road)



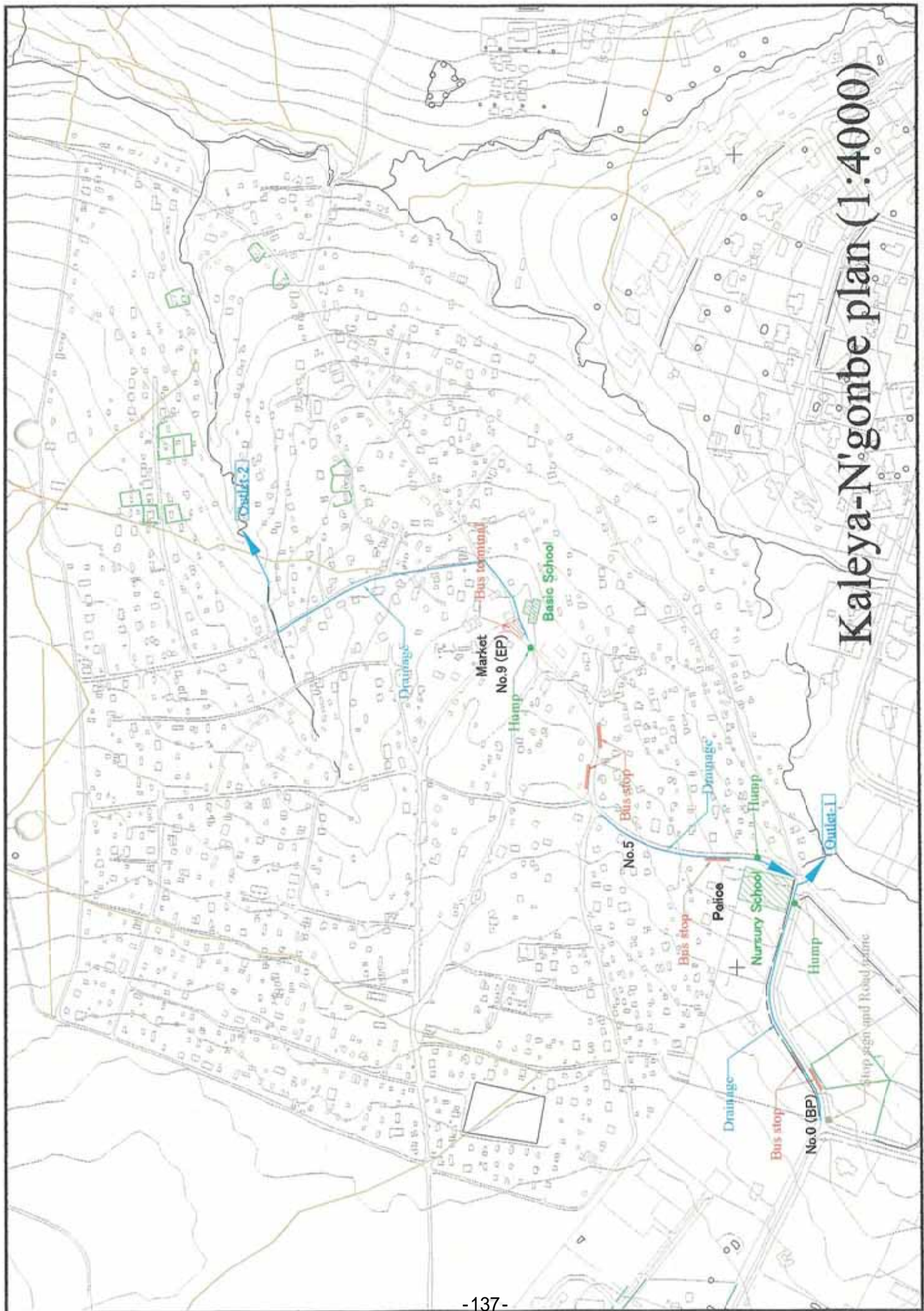
Typical cross section for  
No.23 to E.P (Chitanda Road)



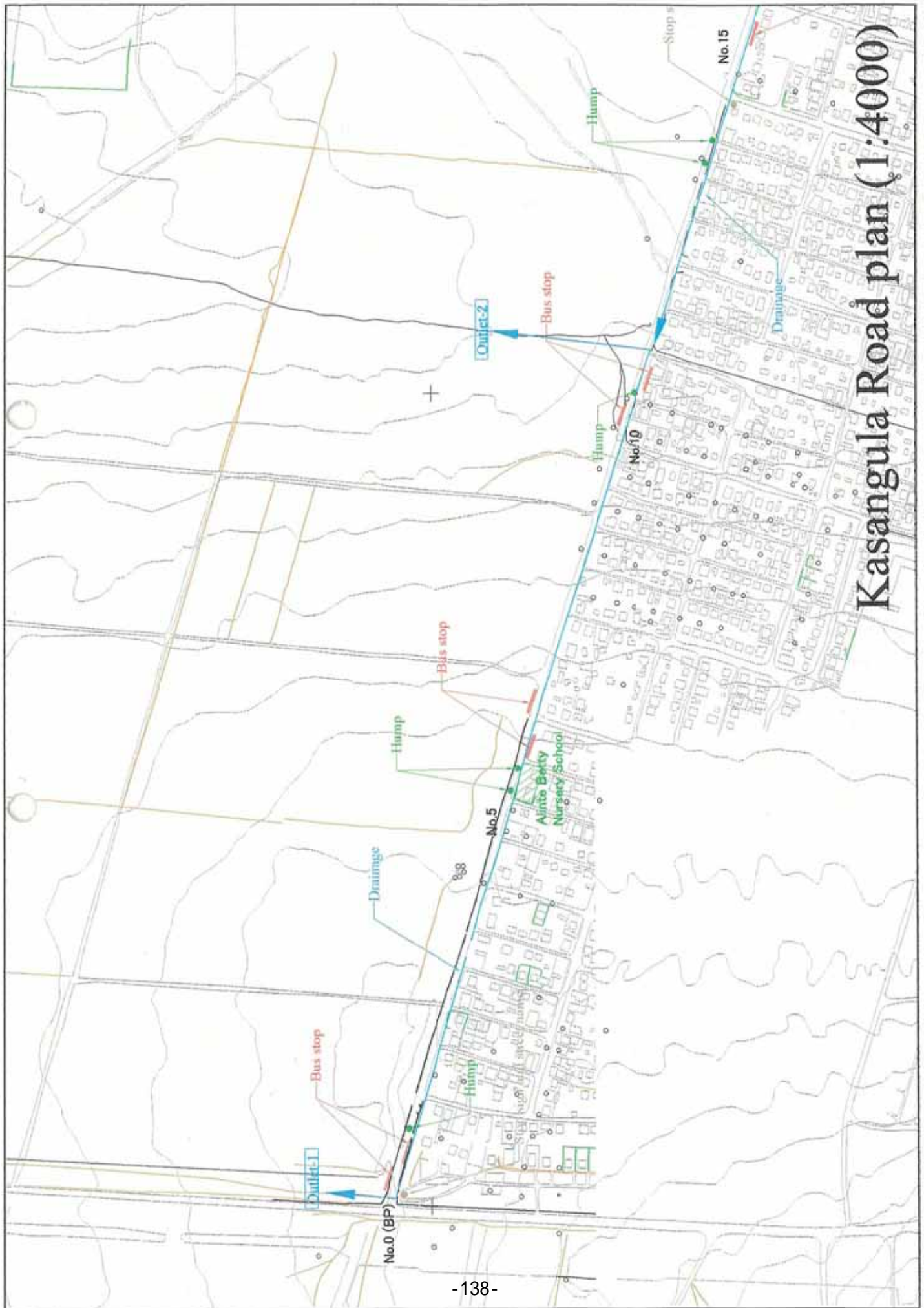


Bauleni Road plan (1:4000)



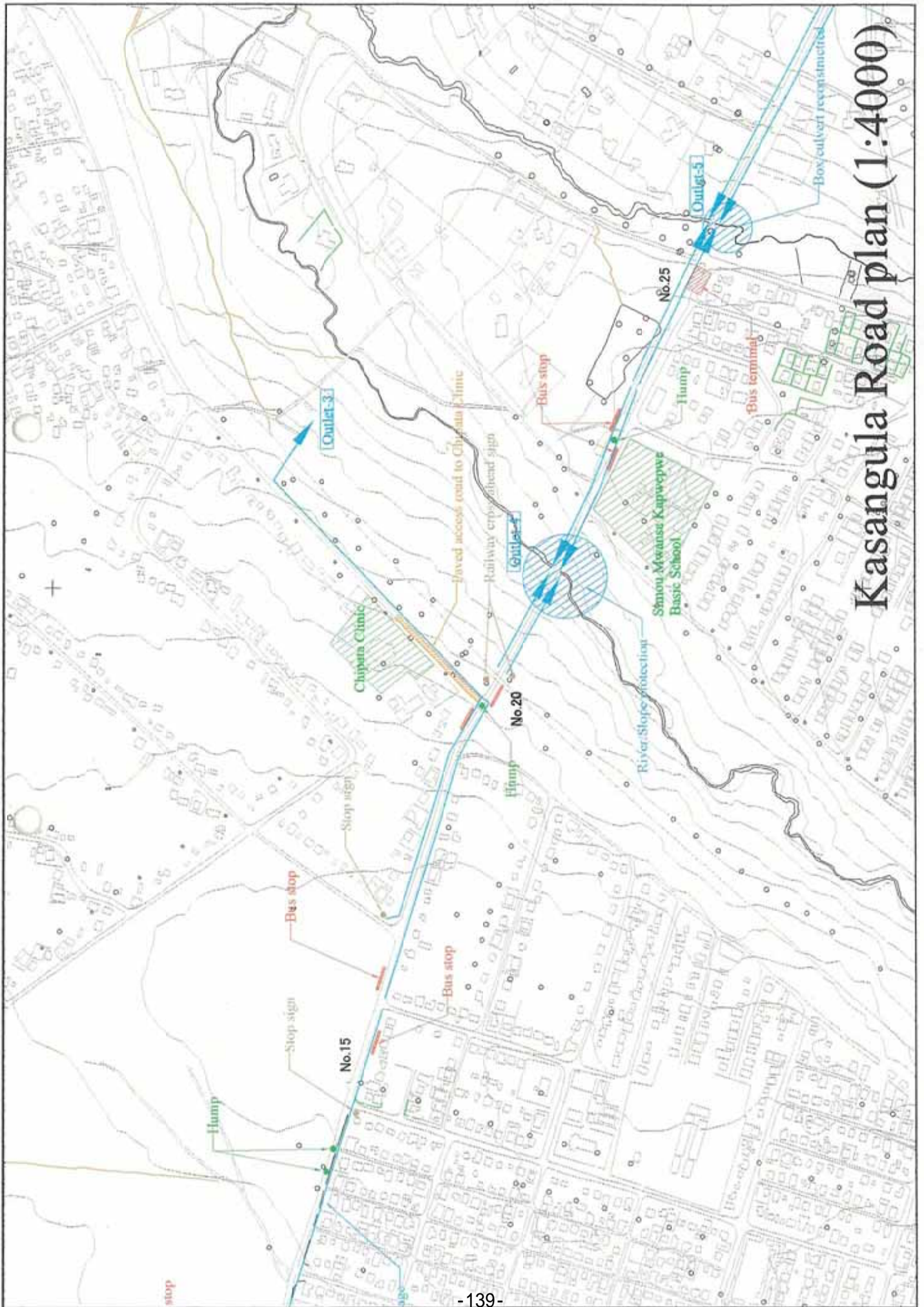


Kaley-N'gonbe plan (1:4000)

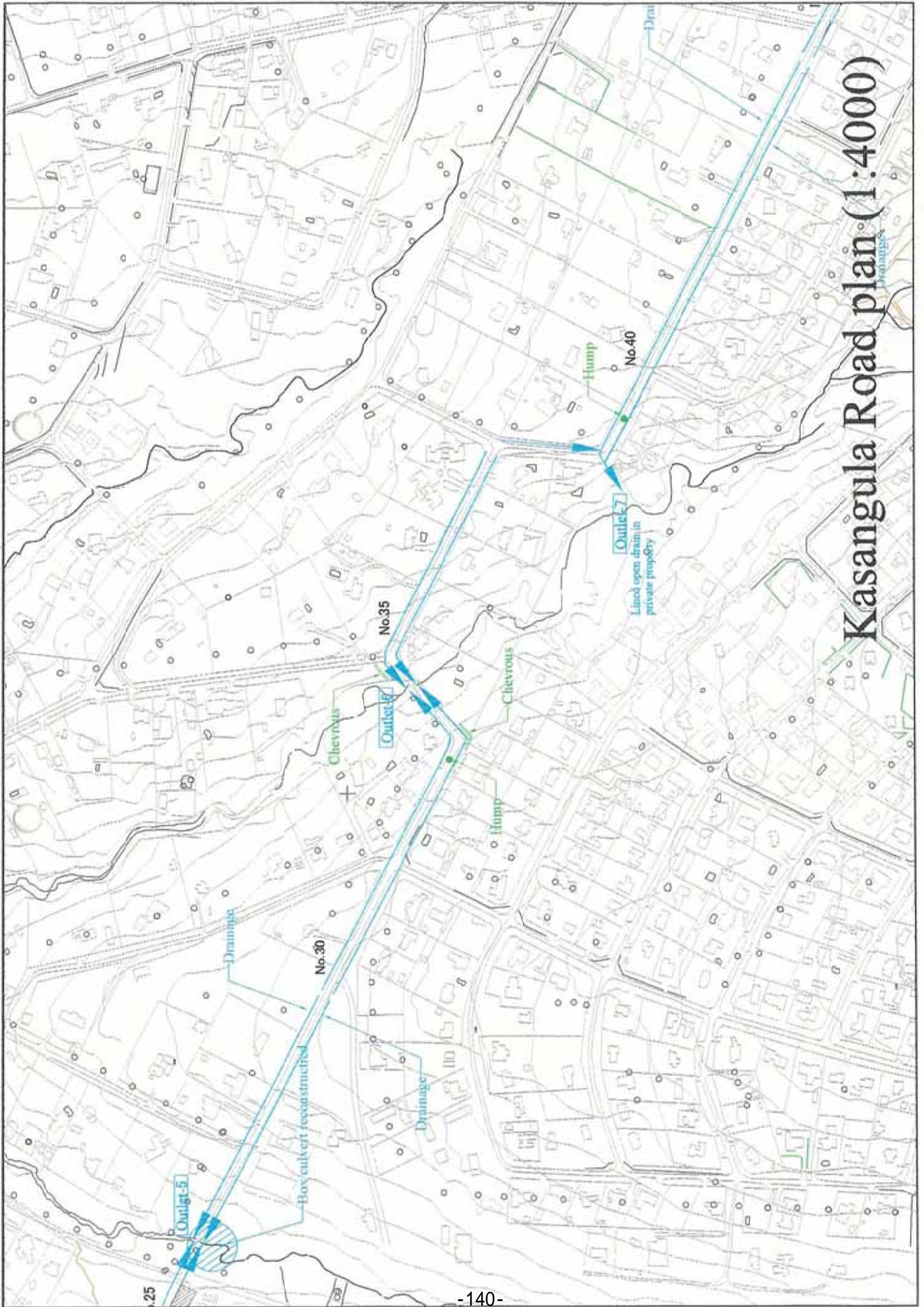


Kasangula Road plan (1:4000)



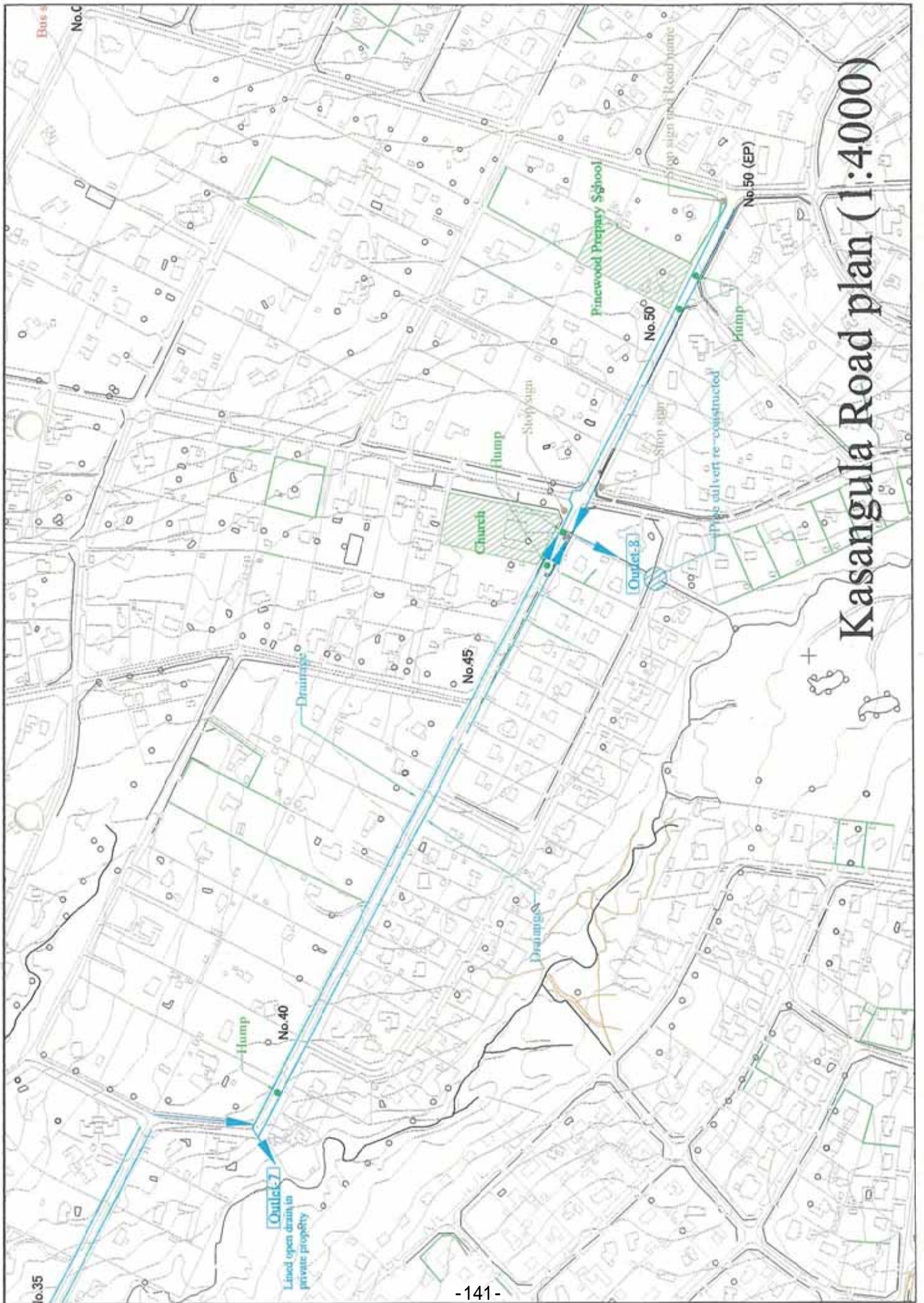






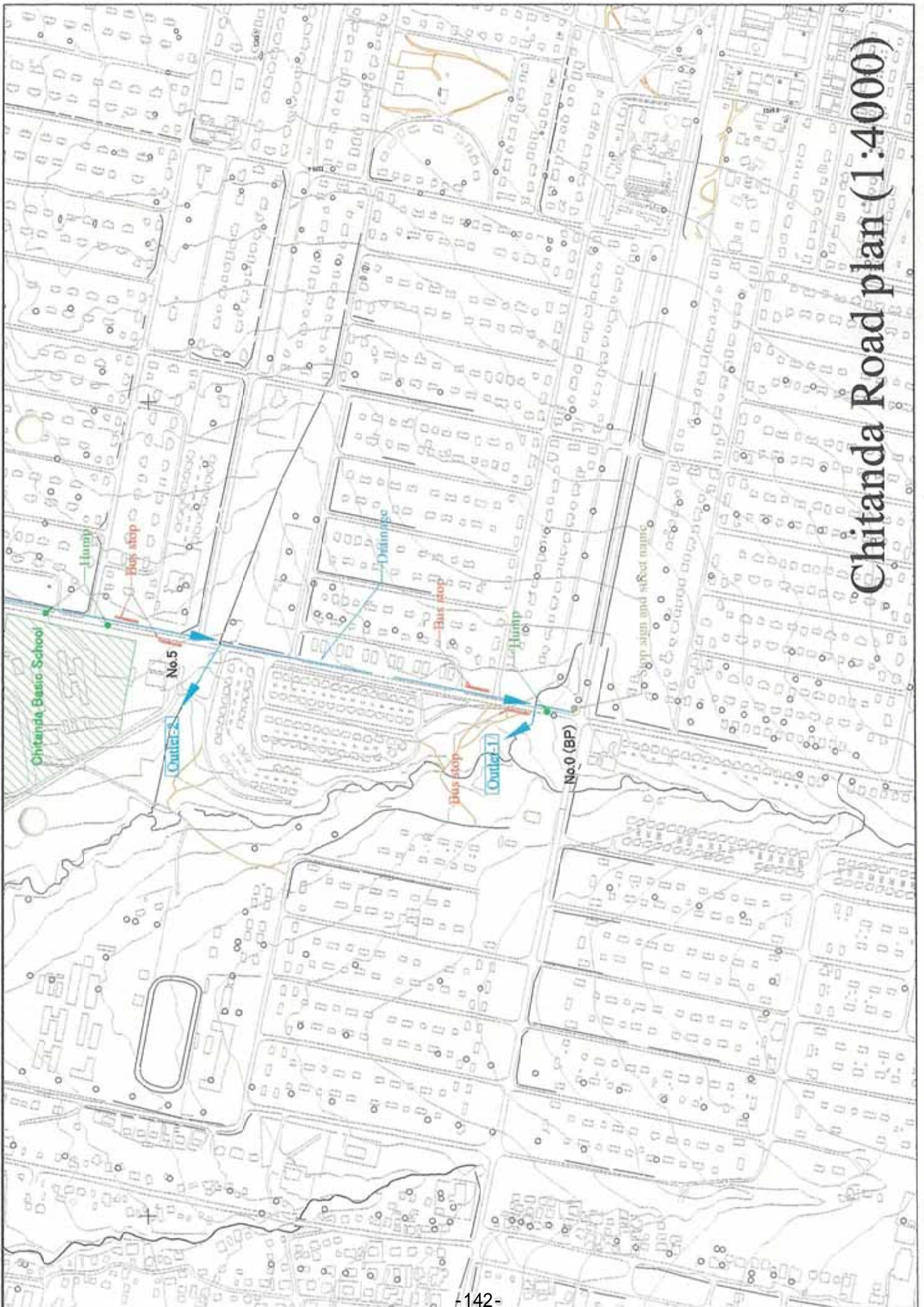
# Kasangula Road plan (1:4000)





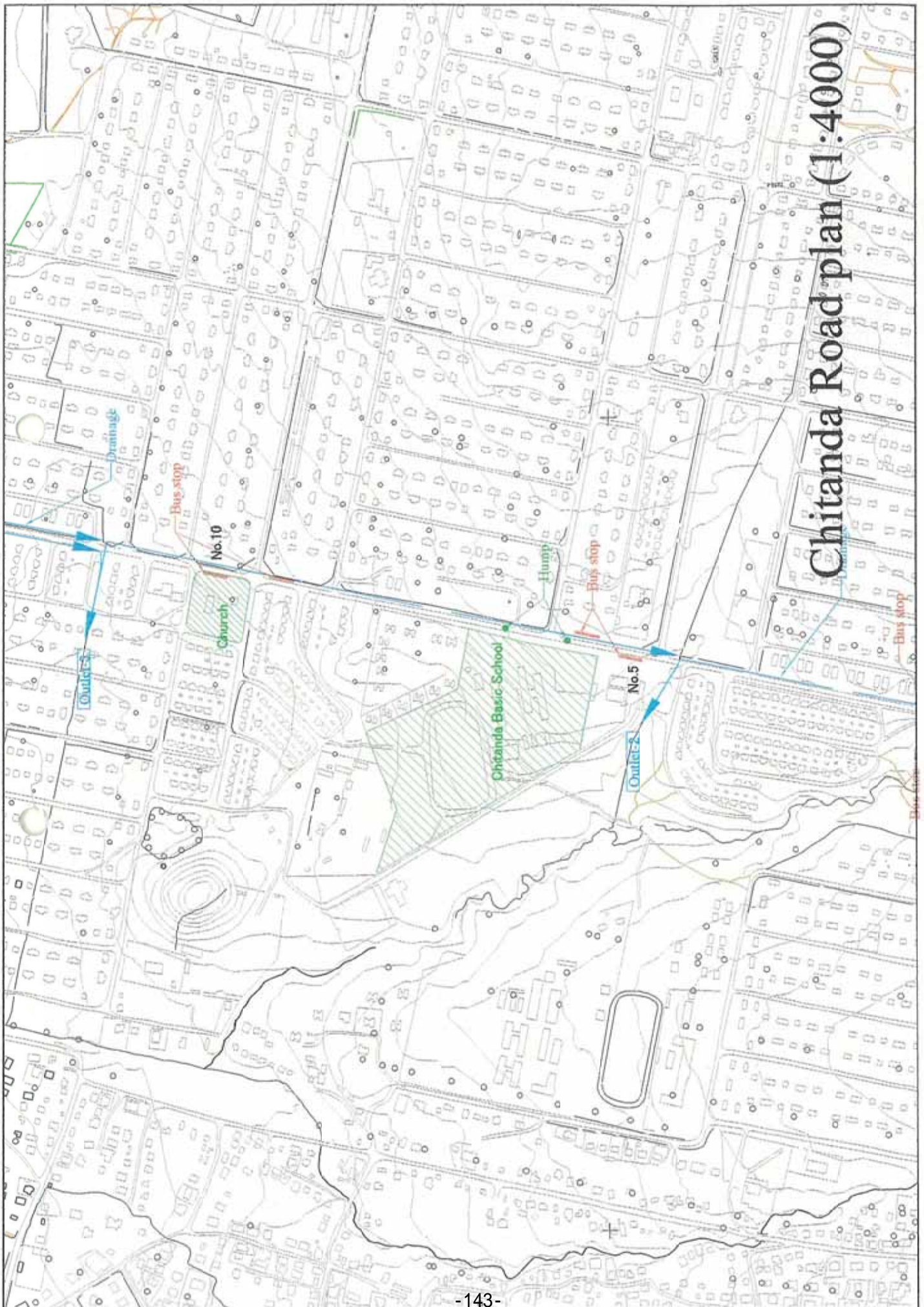
# Kasangula Road plan (1:4000)





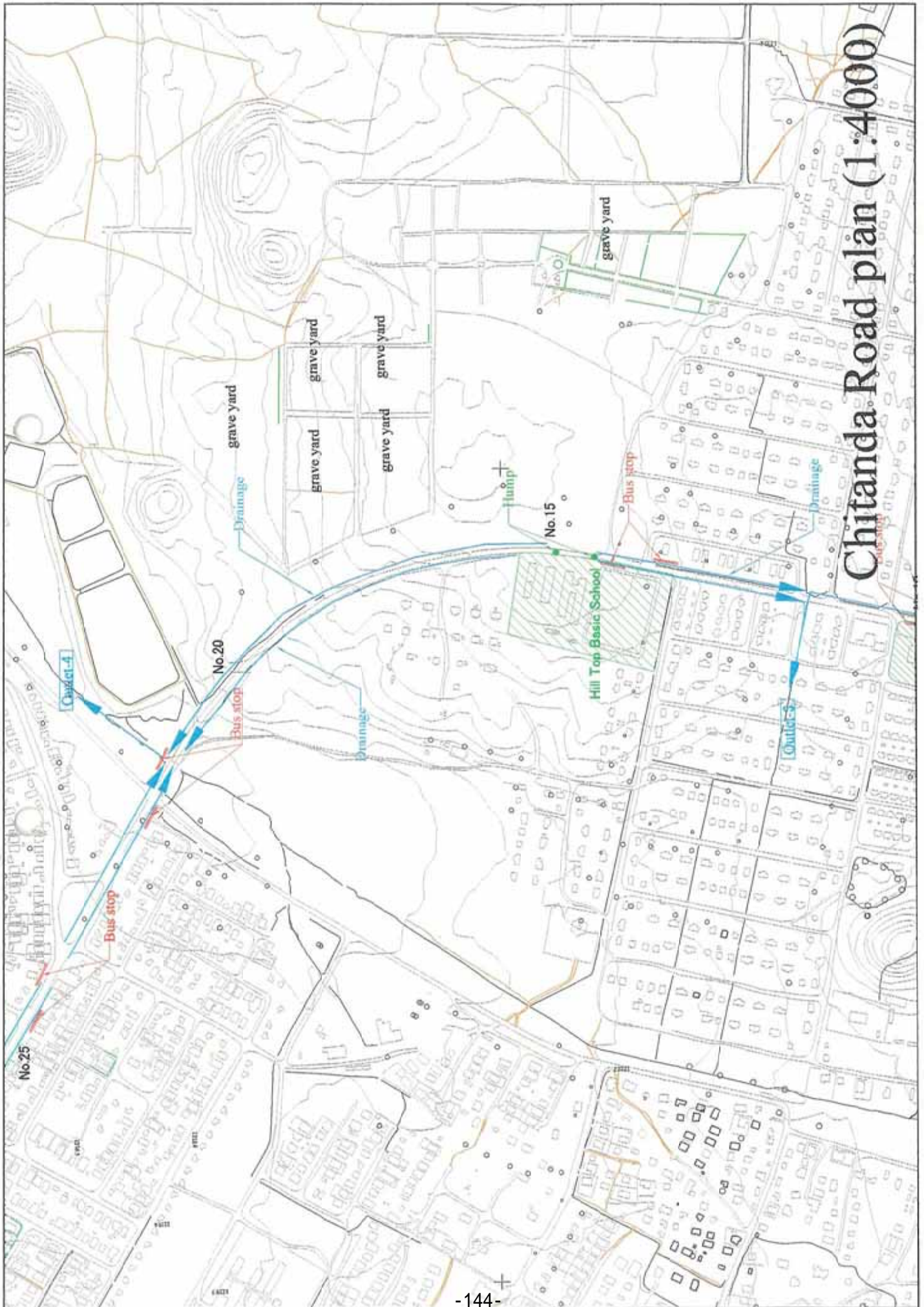
Chitanda Road plan (1:4000)





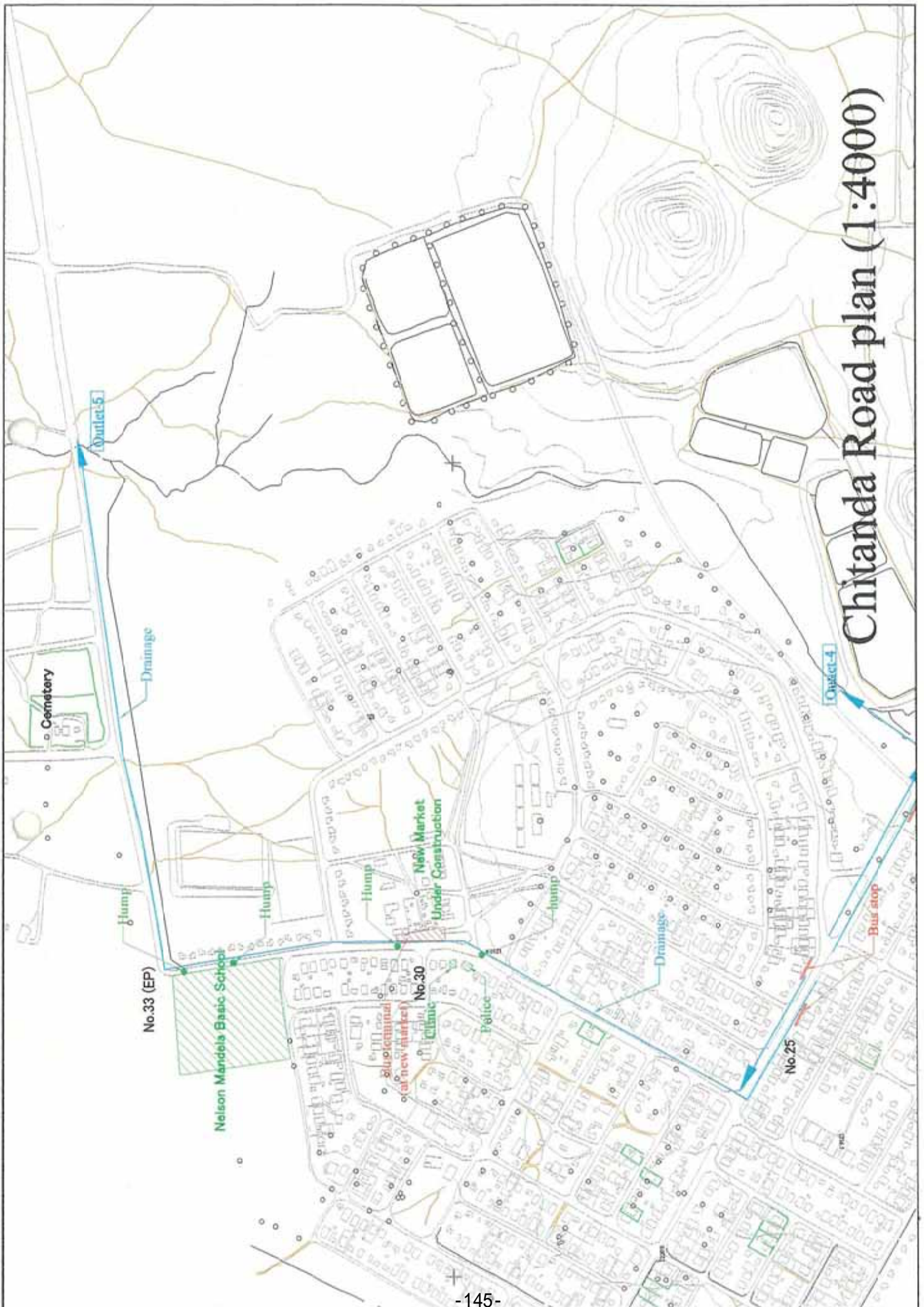
# Chitanda Road plan (1:4000)





# Chitanda Road plan (1:4000)





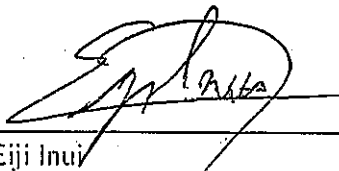
# Chitanda Road plan (1:4000)

**Minutes of Discussions**  
**on the Implementation Review Study on the Project for**  
**Improvement and Maintenance of Lusaka City Roads (Phase III)**  
**in the Republic of Zambia**  
**(Explanation on Draft Report)**

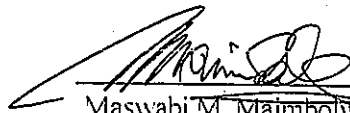
In September 2004, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Implementation Review Study Team on the Project for Improvement and Maintenance of Lusaka City Roads (Phase III) (hereinafter referred to as "the Project") to the Republic of Zambia (hereinafter referred to as "Zambia"), and through discussions, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult with officials concerned of the Government of Zambia on the components of the draft report, JICA sent to Zambia the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Eiji Inui, Resident Representative of the JICA Zambia Office, from January 25 to February 1, 2005.

As a result of discussions, both sides confirmed the main items described on the attached sheets.

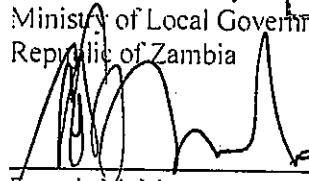


Eiji Inui  
 Leader  
 Draft Report Explanation Team  
 Japan International Cooperation Agency




Maswabi M. Maimbolwa  
 Permanent Secretary  
 Ministry of Local Government and Housing  
 Republic of Zambia

REPUBLIC OF ZAMBIA  
 Lusaka, January 31, 2005  
 MINISTRY OF LOCAL GOVERNMENT  
 & HOUSING  
 31 JAN 2005  
 THE PERMANENT SECRETARY  
 P.O. BOX 50027  
 151001 RIDGEWAY LUSAKA



Francis M. Muwowa  
 Town Clerk  
 Lusaka City Council

REPUBLIC OF ZAMBIA  
 MINISTRY OF FINANCE  
 AND NATIONAL PLANNING  
  
 01 FEB 2005  
 OFFICE OF THE  
 PERMANENT SECRETARY  
 P.O. Box 50062 Lusaka

WITNESS



P.N. Mwangala (Mrs.)  
 Permanent Secretary  
 Ministry of Finance and National Planning  
 Republic of Zambia

*[Handwritten marks and signatures at the bottom of the page]*

## ATTACHMENT

### 1. Components of the Draft Report

The Government of Zambia agreed and accepted in principle the components of the draft final report explained by the Team.

### 2. Schedule of the Study

JICA will complete the final report and send it to the Government of Zambia around the end of March, 2005.

### 3. Environmental and Social Considerations

The Zambian side should submit/submitted the records of discussion/minutes of meeting about a series of stakeholder meetings held in September 2004, which should include contents of explanations to the stakeholders done by the Lusaka City Council, question & answer, comments of stakeholders, and list of participants as shown in Annex 1. The record shall be attached to the final report.

### 4. Undertakings to be done by the Zambian side

The Zambian side agreed to undertake its obligations as outlined in Annex 5 "RESPONSIBILITIES AND SCHEDULE BY THE LUSAKA CITY COUNCIL" of the first minutes of discussion on September 9, 2004.

- i) They also agreed that relocation of two (2) Zesco poles on Kasangula Road should be carried out by May 2005.
- ii) The approval of Environmental Project Brief on the entire project, Asphalt plant and Borrow Pit shall be obtained from ECZ by end of February 2005.

### 5. Other Relevant Issues

- (1) The Zambian side requested the Team to include the following components into the Project as the additional request. The Team will assess the appropriateness of each component and inform its results in the final report.

- Two (2) Chevrons on Kasangula Road
- Road Signs for bus stop/terminal and railway crossing
- Zebra crossing at public facilities
- Steel gratings at entrance of drain into private property

- (2) The Zambian side submitted the routine and periodical maintenance plan for the Project as per Annex-2.

- (3) The Team handed over the draft documents and drawings on technical specification as a result of the study to Zambia side. The Zambia side has finalized the draft documents and drawings and may use them for the future tender. In such case, Zambia side shall bear responsibility for project implementation and the outcome of the project executed through the contract between Japanese firms.

(4) Both sides agreed that this draft design handed to Zambia side from the Team is confidential and should not be duplicated or released to any outside parties.

(5) The Zambian side requested the Team to carry out the counterpart training for one or two Engineers of the Lusaka City Council in Japan or in third country on the management of the maintenance of roads as a technical cooperation by JICA. The proposed duration of training is three months starting in 2005. The Zambian side understands that additional official request on the above technical cooperation will need to be submitted from the Zambian side to the Japanese side through the JICA Zambia Office.

(6) The Japanese side understands that all Engineers who will be working on the project will need to be registered with the Engineering Institute of Zambia according to the Zambian Laws.



ANNEX I

5





# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwangomba

P.O. Box 30077

LUSAKA

Republic of Zambia

Reference: GM/ESD/5/3/29 ✓

Date: 10<sup>th</sup> September 2004

Area Councillor,  
Mulungushi Ward,  
LUSAKA.

Dear Councillor,

**RE: AWARENESS CAMPAIGN FOR THE PROPOSED  
RECONSTRUCTION OF KASANGULA AND KALEYA-NG'OMBE ROADS  
IN MANDEVU CONSTITUENCY**

The Lusaka City Council shall reconstruct Kasangula and Kaleya-Ng'ombe roads under the proposed Project for the Rehabilitation and Improvement Of Lusaka City Roads Phase III.

The initial stages for the project requires field surveys by Lusaka City Council staff and the J.I.C.A study Team for the project. Further awareness campaigns for the proposed construction of the roads has to be carried out by community leaders through the Office of the area Councillors. The intention of the campaigns is to obtain acceptance of the project by the community. It is for this reason that the City Council request for a meeting with yourself in the office of the Director of Engineering Services old wing Civic Centre on 15<sup>th</sup> September 2004 at 10:00hrs.

Your participation and assistance in this matter will be appreciated.

Yours faithfully,

**B.L. LUANGA**  
DIRECTOR OF ENGINEERING SERVICES



# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwagomba

Reference: GM/ESD/5/3/29 ✓

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 10<sup>th</sup> September 2004

Councillor W. Muswema,  
Justine Kabwe Ward,  
LUSAKA.

Dear Councillor,

**RE: AWARENESS CAMPAIGN FOR THE PROPOSED  
RECONSTRUCTION OF KASANGULA AND KALEYA-NG'OMBE ROADS  
IN MANDEVU CONSTITUENCY**

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Your participation and assistance in this matter will be appreciated.

Yours faithfully,

**B.L. LUANGA**  
DIRECTOR OF ENGINEERING SERVICES



# LUSAKA CITY COUNCIL

## OFFICE OF THE TOWN CLERK

P O Box 30077  
CIVIC CENTRE  
LUSAKA, ZAMBIA 10101  
GM/ESD/5/3/29

TELEPHONE: 260 01 250773  
TELEFAX: 026 1 252141  
Date: 10<sup>th</sup> September 2004

Hon. C. Kabaghe, MP  
Matero Constituency,  
LUSAKA.

Dear Hon. C. Kabaghe,

**RE: AWARENESS CAMPAIGNS FOR THE PROPOSED  
RECONSTRUCTION OF CHITANDA ROAD IN MATERO AND CHUNGA  
COMPOUNDS**

The Lusaka City Council shall reconstruct Chitanda road under the proposed Project for the Rehabilitation and Improvement Of Lusaka City Roads Phase III.

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Your participation and assistance in this matter will be appreciated.

Yours faithfully,

  
FRANCIS M. MUWOWO  
TOWN CLERK

CC PERMANENT SECRETARY-MINISTRY OF LOCAL GOVERNEMENT AND HOUSING  
CC TEAM LEADER- J.I.C.A. STUDY TEAM  
CC THE DIRECTOR OF ENGINEERING SERVICES





# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwangomba

P.O. Box 30077

LUSAKA

Republic of Zambia

Reference: GM/ESD/5/3/29

Date: 10<sup>th</sup> September 2004

Councillor A. Mwiimbi,  
Kabulonga Ward,  
LUSAKA.

Dear Councillor,

**RE: AWARENESS CAMPAIGN FOR THE PROPOSED  
RECONSTRUCTION OF BAULENI ROAD IN BAULENI COMPOUND**

The Lusaka City Council shall reconstruct Chitanda road under the proposed Project for the Rehabilitation and Improvement Of Lusaka City Roads Phase III.

The initial stages for the project requires field surveys by Lusaka City Council staff and the J.I.C.A study Team for the project. Further awareness campaigns for the proposed construction of the road has to be carried out by community leaders through the Office of the area Councillors. The intention of the campaigns is to obtain acceptance of the project by the community. It is for this reason that the City Council request for a meeting with yourself in the office of the Director of Engineering Services old wing Civic Centre on 15<sup>th</sup> September 2004 at 10:00hrs.

Your participation and assistance in this matter will be appreciated.

Yours faithfully,

**B.L. LUANGA**  
**DIRECTOR OF ENGINEERING SERVICES**



Fam



# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwachumba

P.O. Box 30077

LUSAKA

Republic of Zambia

Reference: GM/ESD/5/3/29 ✓

Date: 10<sup>th</sup> September 2004

Councillor B. Chafilwa,  
Roma Ward,  
LUSAKA.

Dear Councillor,

### RE: AWARENESS CAMPAIGN FOR THE PROPOSED RECONSTRUCTION OF KASANGULA AND KALEYA-NG'OMBE ROADS IN MANDEVU CONSTITUENCY

The Lusaka City Council shall reconstruct Kasangula and Kaleya-Ng'ombe roads under the proposed Project for the Rehabilitation and Improvement Of Lusaka City Roads Phase III.

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Your participation and assistance in this matter will be appreciated.

Yours faithfully,

**B.L. LUANGA**  
DIRECTOR OF ENGINEERING SERVICES



# LUSAKA CITY COUNCIL

## OFFICE OF THE TOWN CLERK

P O Box 30077  
CIVIC CENTRE  
LUSAKA, ZAMBIA 10101  
GM/ESD/5/3/29 ✓

TELEPHONE: 260 01 250773  
TELEFAX: 026 1 252141  
Date: 9<sup>th</sup> September 2004

Hon. P. Nawa, MP  
Mandevu Constituency,  
LUSAKA.

Dear Hon. P. Nawa,

**RE: AWARENESS CAMPAIGN FOR THE PROPOSED  
RECONSTRUCTION OF KASANGULA AND KALEYA-NG'OMBE ROADS  
IN MANDEVU CONSTITUENCY.**

The Lusaka City Council shall reconstruct Kasangula and Kaleya-Ng'ombe roads under the proposed Project for the Rehabilitation and Improvement Of Lusaka City Roads Phase III.

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Your participation and assistance in this matter will be appreciated.

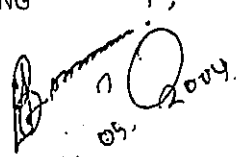


Yours faithfully,

  
FRANCIS M. MUWOWO  
TOWN CLERK

CC PERMANENT SECRETARY-MINISTRY OF LOCAL GOVERNEMENT AND HOUSING  
CC TEAM LEADER- J.I.C.A. STUDY TEAM  
CC THE DIRECTOR OF ENGINEERING SERVICES





  
10. 09. 2004  
 



# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwangomba

Reference: GM/ESD/5/3/29 ✓

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 10<sup>th</sup> September 2004

Councillor R. Chikwete,  
Matero Ward,  
LUSAKA.

Dear Councillor,

**RE: AWARENESS CAMPAIGN FOR THE PROPOSED  
RECONSTRUCTION OF CHITANDA ROAD IN MATERO AND CHUNGA  
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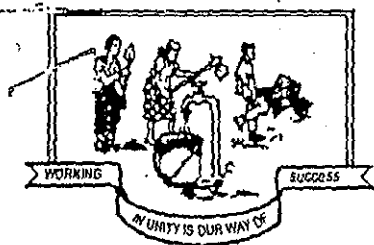
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Your participation and assistance in this matter will be appreciated.

Yours faithfully,

**B.L. LUANGA**  
DIRECTOR OF ENGINEERING SERVICES





# NG'OMBE AREA BASED ORGANISATION

P.O. BOX E/14  
CELL: 097849359  
LUSAKA ZAMBIA

## PROJECTS FOR THE REHABILITATION AND IMPROVEMENT OF LUSAKA CITY ROADS PHASE III

On behalf of the entire community of mandevu constituency. We the under signed wish to confirm that we have been informed about the project for the improvement and maintenance of Lusaka city roads phase III which includes kasangula and Kaleya - Ng'ombe roads in our area. We would like to confirm that we have fully accepted the project especially that it has long been awaited for. We shall ensure that we support in all ways that we could.

On behalf of the project we also wish to express our great happiness and gratitude towards the Japanese government for the assistance already rendered to us in terms of:

1. Construction of mandevu-chipata road, Zambezi, Lukanga and Mutandwa roads
2. Construction of classical / clinic road by jica study team in year 2000
3. Jica primary health care at Ng'ombe health centre
4. Soaker way construction at Ng'ombe health centre
5. Water project & construction of community Centre, Lusaka City council /RDC offices yet to be constructed in year 2005
6. Construction of yet another Government School in 2005

NAME	POSITION	SIGNATURE	DATE
<u>PATRICIA M. NAWA</u>	Area MP	<u>[Signature]</u>	<u>21-09-04</u>
<u>CHRISTINE S.F. CHAFILWA</u>	Area councillor	<u>[Signature]</u>	<u>19/09/2004</u>
<u>WEKUZANI PHIRI</u>	Resident Development Committee-chairman	<u>[Signature]</u>	<u>21-09-04</u>
<u>Peter O. Tembo</u>	Resident Development Committee - Secretary	<u>[Signature]</u>	<u>20-09-04</u>

OFFICE OF THE AREA COUNCILLOR  
MWEMBESHI WARD 30, MATERO, LUSAKA.

Fax: +260-1-287305  
Tel: +260-1-287305  
Cell: 097-847342

P.O.Box 31277,  
Lusaka,  
ZAMBIA.

Ref:

TO WHOM IT MAY CONCERN

PROJECT FOR THE REHABILITATION AND IMPROVEMENT OF LUSAKA CITY  
ROADS PHASE III

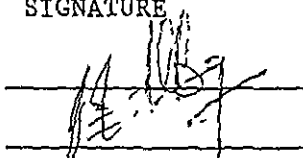

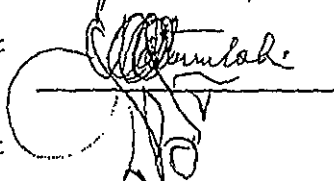
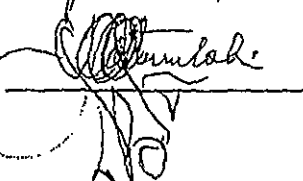
On behalf of the entire Community of Chunga. We the under signed wish to confirm that we have been informed about the project for the improvemnet and maintenance of Lusaka City Roads Phase III which includes Chitanda road in our area. We would like to confirm that we have fully accepted the project especially that it has long been awaited for. We shall ensure that we support the project in all ways that we could. We shall also ensure that the workers working on the project are protected from any harassment of the members of the community.

On behalf of the community we wish to express our great happiness and gratitude towards the Japanese Government for the assistance already rendered to us in terms of:-

1. Construction of Commonwealth Avenue and Lumumba road
2. Construction of Nelson Mandela Basic School

The community further wishes to request J.I.C.A. to consider the extension of the road up to Chunga Cemetery road.

We shall endeavor to protect the infrastructure from vandalism once constructed.

NAME	POSITION	SIGNATURE	DATE
<u>Hon Charles Kabaghe</u>	Area MP		<u>18/09/04</u>
<u>REYNOLD CHITUNDU</u>	Area Councillor		<u>18/09/04</u>
<u>MATAKHA KATAMBONO</u>	Resident Development Committee-Chairman		<u>18/09/04</u>
<u>JETTY J. BANDA</u>	Resident Development Committee-Secretary		<u>18/09/04</u>

個人名は保安上の理由から省略した。




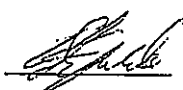
Personal Information have been omitted due to security reasons

PROJECT FOR THE REHABILITATION AND IMPROVEMENT OF LUSAKA CITY  
ROADS PHASE III

On behalf of the entire Community of Mandevu constituency. We the under signed wish to confirm that we have been informed about the project for the improvement and maintenance of Lusaka City Roads Phase III which includes Kasangula and Kaleya- Ngombe roads in our area. We would like to confirm that we have fully accepted the project especially that it has long been awaited for. We shall ensure that we support the project in all ways that we could.

On behalf of the Project we also wish to express our great happiness and gratitude towards the Japanese Government for the assistance already rendered to us in terms of:

1. Construction of Mandevu- Chipata road, Zambezi, Lukanga, and Mutandwa roads,

<u>NAME</u>	<u>POSITION</u>	<u>SIGNATURE</u>	<u>DATE</u>
<u>PATRICIA M. NAWA</u>	Area MP		<u>21.09.04</u>
<u>JOHN CHUMA-KAMGOMBE</u>	Area Councillor		<u>21-09-2004</u>
<u>JOSE L. BANDA</u>	Resident Development Committee- <sup>VICE</sup> Chairman		<sup>20</sup> <u>23/09/04</u>
<u>KELVIN N. GULUBE</u>	Resident Development Committee- Secretary		<u>23/09/04</u>

個人名は保安上の理由から省略した。

Personal Information have been omitted due to security reasons



**LUSAKA CITY COUNCIL  
OFFICE OF THE TOWN CLERK**

P O Box 30077  
CIVIC CENTRE  
LUSAKA, ZAMBIA 10101  
GM/ESD/5/3/29

TELEPHONE: 260 01 250773  
TELEFAX: 026 1 252141

Date: 3<sup>rd</sup> January 2005

The Director,  
External Planning,  
ZAMTEL  
P.O. Box 33630,  
LUSAKA.

Attention: Mr. Kalumba

Dear Sir,

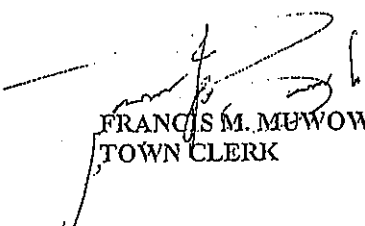
**RE: PROJECT FOR THE IMPROVEMENT AND REHABILITATION OF  
LUSAKA CITY ROADS PHASE III - CHITANDA, KASANGULA,  
KALEYA/NG'OMBE AND BAULENI ROADS**

Reference is made to the above matter.

Notice is hereby given that there will be a meeting concerning the relocation/protection of facilities located along the above roads. The agenda of the meeting is basically to receive progress reports/schedules of works for the relocation/protection of facilities including costs for the exercise.

The meeting shall be held on Wednesday 5<sup>th</sup> January 2005 at 14:30hrs in the office of the Director of Engineering Services at Civic Center.

Yours faithfully,

  
FRANCIS M. MBWOWO  
TOWN CLERK



# LUSAKA CITY COUNCIL

## OFFICE OF THE TOWN CLERK

P O Box 30077  
CIVIC CENTRE  
LUSAKA, ZAMBIA 10101  
GM/ESD/5/3/29

TELEPHONE: 260 01 250773  
TELEFAX: 026 1 252141

Date: 3<sup>rd</sup> January 2005

The Director of Engineering,  
Lusaka Water and Sewerage Company,  
P.O. Box 50198,  
LUSAKA.

Attention: Mr. W. Makondo

Dear Sir,

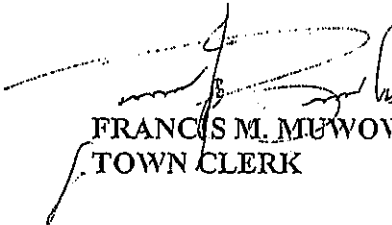
**RE: PROJECT FOR THE IMPROVEMENT AND REHABILITATION OF  
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The meeting shall be held on Wednesday 5<sup>th</sup> January 2005 at 14:30hrs in the office of the Director of Engineering Services at Civic Center.

Yours faithfully,

  
FRANCIS M. MUWOWO  
TOWN CLERK



**LUSAKA CITY COUNCIL**  
**OFFICE OF THE TOWN CLERK**

P O Box 30077  
CIVIC CENTRE  
LUSAKA, ZAMBIA 10101  
GM/ESD/5/3/29

TELEPHONE: 260 01 250773  
TELEFAX: 026 1 252141

Date: 3<sup>rd</sup> January 2005

The Managing Director,  
ZESCO,  
P.O. Box 33304,  
LUSAKA.

Attention: Mr. D. Banda

Dear Sir,

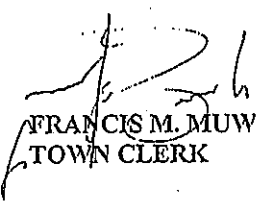
**RE: PROJECT FOR THE IMPROVEMENT AND REHABILITATION OF  
LUSAKA CITY ROADS PHASE III – CHITANDA, KASANGULA,  
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The meeting shall be held on Wednesday 5<sup>th</sup> January 2005 at 14:30hrs in the office of the Director of Engineering Services at Civic Center.

Yours faithfully,

  
FRANCIS M. MUWOWO  
TOWN CLERK

*FMM* *Mu*

**MINUTES OF THE MEETING WITH UTILITY COMPANIES ON THE  
PROJECT FOR IMPROVEMENT & MAINTENANCE OF THE LUSAKA CITY  
ROADS PHASE III (JICA) HELD IN THE OFFICE OF THE DIRECTOR OF  
ENGINEERING SERVICES ROOM 404, OLD WING OF CIVIC CENTRE ON  
04<sup>th</sup> JANUARY 2005 AT 10:00HRS**

---

The meeting commenced at about 10:30Hrs when the chairman, the Director of Engineering Services, Lusaka City Council called the meeting to order.

**PRESENT:**

Mr. B.L. Luanga	Director of Engineering Services, LCC – Chairman
Mr. Gershom Mwangomba	Acting Assistant Director of Engineering Services, LCC
Mr Andrew Zulu	Civil Engineer, LCC - Secretary
Mr Tryson S. Kalumba	ZAMTEL Planning Department
Mr Readis Phiri	ZAMTEL External Development
Mr Ezilon Luka	ZESCO, Principal Construction Engineer
Mr Dennis Banda	ZESCO, Chief Engineer Planning
Mr Zulu Joseph	Assistant Director of City Planning, LCC
Mr W. Makondo	Lusaka Water & Sewerage Company (LWSC), Manager, Water Supply

**AGENDA:**

1. Welcome Remarks
2. Identification and Costing of Relocation/ protection of Services
3. Any other business
4. Venue and date of the next meeting

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*Handwritten signatures*

### **CHAIRMAN'S WELCOMING/ OPENING REMARKS**

The Chairman opened the meeting at 10:30 hours by welcoming all members who were present.

This was followed by introductions of the members present.

The Chairman reminded the members that the JICA approach to the project was that minimum relocation was preferred thus protection of existing services be done on those that fall within the project area.

The Chairman also emphasized that schedule of works for relocation and/or protection of services be drawn urgently together with their associated costs for onward transmission to the Ministry of Local Government and Housing for funding.

The Chairman stressed that the above items be considered as a matter of urgency.

### **Lusaka City Council's responsibilities**

It was pointed out by the Chairman that the Electrical Section of the Council should also look at the provision of ducts for future developments in terms of Electricity/Street Poles.

It was also mentioned by the chairman that the hedges of those that have encroached on the road reserve be cut now while it is still in the rainy season and that the Parks Section be asked to assist in painting the same.

*K*



*FMM* *[Signature]*



**ZAMTEL's responsibilities**

ZAMTEL pointed out that most of their services were not affected by the project in terms of relocation of services but that detailed surveys/inspections (especially joint inspections with LCC) was still required to make a good assessment.

**ZESCO's responsibilities**

ZESCO was informed that there were two poles on Kasangula Road that require relocation. ZESCO mentioned that it was easier for relocating overhead supply as compared to underground. It was agreed that ZESCO will visit the site in question soon to assess.

The Chairman reiterated that the relocation period was between January and April 2005 and that ZESCO should move in quickly.

**Lusaka Water & Sewerage Company's responsibilities**

LWSC pointed out that they need to know the road design before they can know weather to relocate or protect. It was decided that a joint inspection be conducted to identify the services that may be affected.

It was mentioned that a working team will be set up by the following week by the LWSC to assess their services that may require protection and/or relocation..

There being any other business the chairman declared the meeting adjourned at 12: 15 Hrs.

The next meeting was set for February 2005.

DIRECTOR OF ENGINEERING SERVICES, LCC  
**CHAIRMAN**

ANDREW ZULU-ENGINEER, LCC  
**SECRETARY**



MINUTES OF MEETING HELD ON 14<sup>TH</sup> JANUARY 2005 BETWEEN BUS OPERATORS AND LUSAKA CITY COUNCIL

PRESENT

1. COUNCILLOR-MBEWE
2. MR. B.L. LUANGA- DIRECTOR OF ENGINEERING SERVICES L.C.C.
3. MR. G. MWAGOMBA-A/ASSISTANT DIRECTOR OF ENGINEERING
4. MR. STEVEN ZULU
5. MR. BRIAN CHAMA
6. MR. CHARLES MWALE
7. MR. KABUNGO MUSA
8. MR. VICTOR HAMPANDE
9. MR. RICHARD PHIRI
10. MR. ZULU
11. MR. CHARLES PHIRI
12. MR. JOSEPH PHIRI
13. MR. H. MUSONDA
14. MR. CHINGANGU
15. MR. SIMON MASONDE
16. MR. COLLINS MAYO
17. MR. ELIPHAS MWIKUTA
18. MR. PEARSON TEMBO
19. MR. MOSES CHIRWA
20. MR. MORGAN NSONEKA
21. MR. FIWE MTELO SIMBAYI
22. MR. ALBERT MWANSA

ABSENT

1. ZAMBIA POLICE- TRAFFIC

AGENDA

The agenda of the meeting was to resolve issues of concern to the commuting public, bus operators, the Traffic Police and Lusaka City Council.

BACKGROUND

There is growing concern from the members of the public regarding the inadequate of bus stops on existing bus routes. Further there has not been any introduction of new bus routes to cater for the rapidly growing new residential areas. Currently residents in these areas have to walk long distances to the nearest bus stops in the already established areas. Further, buses found operating on routes/roads not gazetted as bus routes are impounded by the Police. The Chairman expressed regret at the absence of the Zambia Police despite being sent a notice for the meeting. The Zambia Police traffic involvement in this matter is very important.

Bus operators pointed out the fact that there only one lay bys on existing bus stops on some of the recently rehabilitated roads. This is against the normal situation of having two bus stops on both sides of roads.

The Director of Engineering acknowledge this omission and informed the meeting that future road rehabilitation works will provide for bus stops on either side of roads. This is the case with the proposed rehabilitation works of the following roads;

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten signature]*

Chitanda, Kaleya/Ng'ombe, Bauleni, Kasangula. The Director of Engineering Services emphasised on the importance of cooperation with the Bus operators and also their involvement in the realisation of the project for the Improvement of Lusaka City Roads Phase III. The Bus Operators will be required to cooperate with the Road Contractor and the Traffic Police during the implementation of the project.

**WAY FORWARD**

It was agreed that tours of the bus routes/ and bus stops be conducted to identify proposed bus stops and also to inspect new proposed bus routes. The schedule for the tour will be agreed upon with the Director of Engineering with the Bus operators for each bus route.

After this process the identified routes and bus stops shall be present to Council for approval.

**CHAIRMAN**

**BUS OPERATOR'S  
REPRESENTATIVE**





# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwangomba

Reference: GM/ESD/5/3/29

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 24<sup>th</sup> January 2004

The Proprietor,  
House No. 255  
Chitanda Road  
LUSAKA.

Dear Sir/Madam,

**RE: REMOVAL OF HEDGES FROM THE ROAD RESERVE TO ALLOW FOR THE RECONSTRUCTION OF CHITANDA ROAD**

Reference is made to the above subject matter and our earlier verbal instruction to remove hedges from the road reserve.

Removal of the hedges from the road reserve will facilitate the reconstruction of Chitanda road. The reconstruction works shall commence after the rainy season.

Please note that you are permitted to replant your hedge away from the road reserve in line with your plot boundary.

Your cooperation in this matter will be appreciated.


Yours faithfully,

  
B.L. LUANGA

DIRECTOR OF ENGINEERING SERVICES DEPARTMENT

CC MP- MATERO CONSTITUENCY  
CC AREA COUNCILLOR



  
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# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwangomba

Reference: GM/ESD/5/3/29

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 24<sup>th</sup> January 2004

The Proprietor,  
House No. 256  
Chitanda Road  
LUSAKA.

Dear Sir/Madam,

**RE: REMOVAL OF HEDGES FROM THE ROAD RESERVE TO ALLOW  
FOR THE RECONSTRUCTION OF CHITANDA ROAD**

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Your cooperation in this matter will be appreciated.

Yours faithfully,

**B.L. LUANGA**

**DIRECTOR OF ENGINEERING SERVICES DEPARTMENT**

CC MP- MATERO CONSTITUENCY

CC AREA COUNCILLOR



# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwagomba

Reference: GM/ESD/5/3/29

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 24<sup>th</sup> January 2004

The Proprietor,  
House No. 263  
Chitanda Road  
LUSAKA.

Dear Sir/Madam,

**RE: REMOVAL OF HEDGES FROM THE ROAD RESERVE TO ALLOW  
FOR THE RECONSTRUCTION OF CHITANDA ROAD**

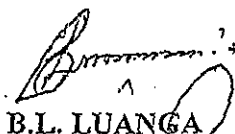
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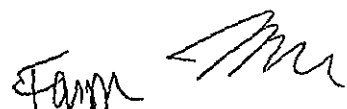
Yours faithfully,



B.L. LUANGA

DIRECTOR OF ENGINEERING SERVICES DEPARTMENT

CC MP-MATERO CONSTITUENCY  
CC AREA COUNCILLOR





# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT

INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

P.O. Box 30077

FAX: 253759

LUSAKA

Verbal Enquiries To: G. Mwangomba

Republic of Zambia

Reference: GM/ESD/5/3/29

Date: 24<sup>th</sup> January 2004

The Proprietor,  
House No. 264  
Chitanda Road  
LUSAKA.

Dear Sir/Madam,

**RE: REMOVAL OF HEDGES FROM THE ROAD RESERVE TO ALLOW FOR THE RECONSTRUCTION OF CHITANDA ROAD**

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Yours faithfully,

B.L. LUANGA

DIRECTOR OF ENGINEERING SERVICES DEPARTMENT

CC MP- MATERO CONSTITUENCY  
CC AREA COUNCILLOR





# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwagomba

Reference: GM/ESD/5/3/29

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 24<sup>th</sup> January 2004

The Proprietor,  
House No. 271  
Chitanda Road  
LUSAKA.

Dear Sir/Madam,

**RE: REMOVAL OF HEDGES FROM THE ROAD RESERVE TO ALLOW  
FOR THE RECONSTRUCTION OF CHITANDA ROAD**

Reference is made to the above subject matter and our earlier verbal instruction to remove hedges from the road reserve.

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Please note that you are permitted to replant your hedge away from the road reserve in line with your plot boundary.

Your cooperation in this matter will be appreciated.

Yours faithfully,



**B.L. LUANGA  
DIRECTOR OF ENGINEERING SERVICES DEPARTMENT**

CC MP-MATERO CONSTITUENCY  
CC AREA COUNCILLOR





# LUSAKA CITY COUNCIL

## ENGINEERING SERVICES DEPARTMENT INDEPENDENCE AVENUE CIVIC CENTRE

Telephone: 253759

FAX: 253759

Verbal Enquiries To: G. Mwangomba

Reference: GM/ESD/5/3/29

P.O. Box 30077

LUSAKA

Republic of Zambia

Date: 24<sup>th</sup> January 2004

The Proprietor,  
House No. 279  
Chitanda Road  
LUSAKA.

Dear Sir/Madam,

### RE: REMOVAL OF HEDGES FROM THE ROAD RESERVE TO ALLOW FOR THE RECONSTRUCTION OF CHITANDA ROAD

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Yours faithfully,

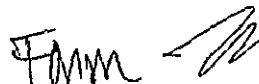
  
B.L. LUANGA

DIRECTOR OF ENGINEERING SERVICES DEPARTMENT

CC MP- MATERO CONSTITUENCY  
CC AREA COUNCILLOR







## ANNEX 2

### LUSAKA CITY COUNCIL

#### ENGINEERING SERVICES DEPARTMENT

## ROUTINE AND PERIODIC MAINTENANCE OF ROADS

### 1.0 INTRODUCTION

Under the Road Sector Investment Programme (ROADSIP), it is the Zambian Government's policy to place all newly constructed roads, rehabilitated roads and all roads in good motorable condition under Routine and Periodic maintenance programs. The policy is intended to prolong the roads' life span and preserve the huge investment that goes into their construction or rehabilitation. The policy applies to both asphalt and gravel roads, urban and rural or feeder roads.

### 2.0 LUSAKA CITY ROADS SITUATION

Over the last ten or so years, Lusaka City Roads have undergone a major facelift in terms of improvements and rehabilitations under various programs like JICA Phase I, JICA Phase II and GRZ/World Bank. About 250km of roads have been rehabilitated in the city under these programs with a lot of money being invested.

To preserve this huge investment and going by the Government Roadsip policy, all the roads that have been rehabilitated have been put under periodic and routine maintenance program. Currently, there is a three (3) year program in which the city roads have been divided into six (6) zones with private contractors engaged to carry out Performance Contracts. Under these contracts, the following works are carried out:

- (a) sweeping of carriageway
- (b) cleaning and cutting drains
- (c) verge clearing
- (d) patching of potholes where they appear
- (e) road marking
- (f) any other works as the Client may desire, as long as they are related to road maintenance.

The current 3-year program runs from 2004 to 2006, and will be renewed at the end.

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Funding for the programme comes from the Fuel Levy and is budgeted for by the National Roads Board (NRB).

The programme is performing excellently at the moment as all rehabilitated roads, JICA Phase I and JICA Phase II programme roads inclusive, are being well maintained on a daily basis.

### **3.0 ROUTINE AND PERIODIC MAINTENANCE PLAN FOR JICA PHASE III**

Upon completion of the Phase III project, all the roads (Bauleni, Chitanda, Kaleya-N'gombe and Kasangula) will be incorporated into the currently running Performance Contracts, just like it happened to Great North Road, Great East Road and Manchinchi Road under Phase II Stage II.

The above-mentioned scope of works shall also apply to these roads.



**THE LUSAKA CITY COUNCIL**  
**TENDER COMMITTEE**

GOVERNMENT OF THE REPUBLIC OF ZAMBIA  
Invites bids for

.....  
**TENDER No. MLGH/W/001/2003**

**ROUTINE MAINTENANCE OF REHABILITATED ROADS AND  
STREETS**

**FOR:**

**ZONE 1- BUSINESS DISTRICT**

Name of Bidder:  
.....

**FINANCING AGENCY:**  
NATIONAL ROADS BOARD  
PO BOX 50695  
LUSAKA

**TENDER AUTHORITY:**  
MINISTRY OF LOCAL GOVERNMENT AND HOUSING  
PO BOX 50027  
LUSAKA

**EMPLOYER:**  
LUSAKA CITY COUNCIL  
PO BOX 30077  
LUSAKA

JUNE, 2003

  
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**LUSAKA CITY ROADS - ZONE 1 : CENTRAL BUSSINESS DISTRICT**

ITEM	ROAD NAME	PROGRAMME	LENGTH(Km)
1	Cairo	JICA	1.8
2	Chachacha	JICA	1.7
3	Freedom Way	JICA	1.6
4	Malasha	JICA	0.3
5	Kalundwe	JICA	0.4
6	Chiparamba	JICA	0.4
7	Nkwazi	JICA	0.4
8	Katondo	JICA	0.4
9	Katunjila	JICA	0.4
10	Ben Bella	JICA	0.4
11	Sapele	JICA	1
12	Dar-es-Salaam	JICA	0.2
13	Heroes	JICA	0.2
14	Nairobi	JICA	0.2
15	Buteko	JICA	0.2
16	Chainda	JICA	0.2
17	Chifinga	JICA	0.2
18	Panganani	JICA	0.5
19	Kalambo	JICA	0.5
20	Lumumba	JICA	7.2
21	Sheki-sheki	JICA	1.4
22	Washama	JICA	1.2
23	Chishango	JICA	1.2
24	Bumbo	JICA	0.1
25	Nchoncho	JICA	0.7
26	Mwayi	JICA	0.6
27	Kutwa	JICA	0.8
28	Pionallo Miti	JICA	0.3
29	Kafue	GRZ	4
30	Luanshya	JICA	1.4
31	Malambo	JICA	1.4
32	Chawama	JICA	4.5
33	Musonda Ngosa	JICA	0.8
34	Kulima Tower	JICA	0.15
	<b>TOTAL</b>		<b>36.75</b>

*Handwritten signature*

**THE LUSAKA CITY COUNCIL  
TENDER COMMITTEE**

GOVERNMENT OF THE REPUBLIC OF ZAMBIA  
Invites bids for

TENDER No. MLGH/W/002/2003

ROUTINE MAINTENANCE OF REHABILITATED ROADS AND  
STREETS

FOR:

**ZONE 2- INDUSTRIAL AREA**

Name of Bidder:

**WAVIZANA ENTERPRISE**

FINANCING AGENCY:  
NATIONAL ROADS BOARD  
PO BOX 50695  
LUSAKA

TENDER AUTHORITY:  
MINISTRY OF LOCAL GOVERNMENT AND HOUSING  
PO BOX 50027  
LUSAKA

EMPLOYER:  
LUSAKA CITY COUNCIL  
PO BOX 30077  
LUSAKA

JUNE, 2003





**LUSAKA CITY ROADS - ZONE 2: INDUSTRIAL AREA**

ITEM	ROAD NAME	PROGRAMME	LENGTH(Km)
1	Commonwealth	JICA	2.8
2	Antelope	JICA	1.1
3	Umzilikazi	JICA	2.3
4	Mukwa	JICA	2
5	Buyantanshi	JICA	1.9
6	Nakambala	JICA	0.4
7	Maunda	JICA	0.2
8	Kansanshi	JICA	0.9
9	Mungwi	JICA	2.7
10	Katanga	JICA	0.7
11	Mwembeshi	JICA	1.5
12	Mukatasha	JICA	1.7
13	Kachidza	JICA	1.2
14	Moobola	JICA	0.2
15	Kambala	JICA	0.2
16	Njolwe	JICA	0.2
17	Manda	JICA	1.2
18	Mumbwa	JICA	3.7
19	Great North Road	JICA	4
20	Los Angeles	JICA	3.4
	TOTAL		32.9

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**TECHPRIDE (Z) LIMITED**

**TENDER FOR THE ROUTINE  
MAINTENANCE OF  
REHABILITATED ROADS  
AND  
STREETS IN LUSAKA CITY  
THROUGH PERFORMANCE  
CONTRACTS  
ZONE 3**

Plot 7222 / 3. New Light Industrial Area, P.O. Box 36863, Lusaka.  
TEL / FAX: 260-1 282512. Mobile: 260-96-751007 / 260-96- 768641

-180

**LUSAKA CITY ROADS - ZONE 3:NORTHERN AREA**

ITEM	ROAD NAME	PROGRAMME	LENGTH(Km)
1	Mandevu/Chipata	JICA	3.6
2	Munali/Kaunda Square	JICA	3.5
3	Palm Drive	JICA	3.7
4	Katima Mulilo	JICA	4.6
5	Lukanga	JICA	1.6
6	Zambezi	JICA	1.3
7	Mutandwa	JICA	1.7
8	Garden	JICA	2
9	Great East	JICA	14
10	Paseli	ROADSIP	0.8
11	Benakale	ROADSIP	0.5
12	Central Street	ROADSIP	1.2
13	Limbe	ROADSIP	0.4
14	Lubambe	ROADSIP	0.8
15	Acacia	ROADSIP	1.3
16	Simon Mwansa	ROADSIP	2.2
17	Kwacha	ROADSIP	1.4
18	Parliament	ROADSIP	0.9
19	Libala	JICA	1.45
20	Manchichi	JICA	2.3
	<b>TOTAL</b>		<b>49.25</b>

*X*

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**THE LUSAKA CITY COUNCIL**  
**TENDER COMMITTEE**

GOVERNMENT OF THE REPUBLIC OF ZAMBIA  
Invites bids for

.....  
TENDER No. MLGH/W/004/2003

ROUTINE MAINTENANCE OF REHABILITATED ROADS AND  
STREETS

FOR:

ZONE 4- SOUTHERN AREA

Name of Bidder:

*PROSILE CLAN LTD*

FINANCING AGENCY:  
NATIONAL ROADS BOARD  
PO BOX 50695  
LUSAKA

TENDER AUTHORITY:  
MINISTRY OF LOCAL GOVERNMENT AND HOUSING  
PO BOX 50027  
LUSAKA

EMPLOYER:  
LUSAKA CITY COUNCIL  
PO BOX 30077  
LUSAKA

JUNE, 2003

LUSAKA CITY ROADS - ZONE 4: SOUTHERN AREA

ITEM	ROAD NAME	PROGRAMME	LENGTH(Km)
1 ✓	Chilimbulu	JICA	7.2
2 ✓	Independence Avenue	ROADSIP	6.6
3 ✓	Jacaranda	ROADSIP	0.7
4 ✓	Paul Banda	ROADSIP	0.6
5 ✓	Seventh Street	GRZ	0.5
6 ✓	Chimanga	ROADSIP	0.3
7 ✓	Chibwa	ROADSIP	0.5
8 ✓	Burma	ROADSIP	5.8
9 ✓	Chitukuko	ROADSIP	1.1
10 ✓	Yotam Muleya	ROADSIP	1.6
11	Pemba	JICA	2.2
12 ✓	Muramba	JICA	2.3
13 ✓	Nationalist	ROADSIP	1.1
14 ✓	Government	ROADSIP	1.1
15 ✓	Sandulula	GRZ	0.5
16	Dedan Kimathi	GRZ	1
17 ✓	Kasama	JICA	0.3
18 ✓	Fairley	ROADSIP	0.5
19 ✓	Government Enclave	ROADSIP	0.5
	<b>TOTAL</b>		<b>34.4</b>

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**THE LUSAKA CITY COUNCIL  
TENDER COMMITTEE**

GOVERNMENT OF THE REPUBLIC OF ZAMBIA  
Invites bids for

TENDER No. MLGH/M/005/2003

ROUTINE MAINTENANCE OF REHABILITATED ROADS AND  
STREETS

FOR:

ZONE 5- CENTRAL AREA

Name of Bidder:

KEZWE ENT/CRG. CLAN LTD JOINT VENTURE

FINANCING AGENCY:  
NATIONAL ROADS BOARD  
PO BOX 5009E  
LUSAKA

TENDER AUTHORITY:  
MINISTRY OF LOCAL GOVERNMENT AND HOUSING  
PO BOX 50027  
LUSAKA

EMPLOYER:  
LUSAKA CITY COUNCIL  
PO BOX 30077  
LUSAKA

JUNE, 2003

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LUSAKA CITY ROADS - ZONE 5: CENTRAL AREA

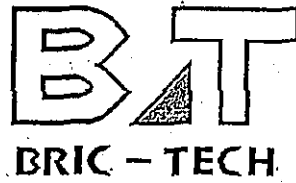
ITEM	ROAD NAME	PROGRAMME	LENGTH(Km)
1	Alick Nkhata	JICA	4.3
2	Kamloops	JICA	2.6
3	Mtendere	JICA	1.7
4	Church	ROADSIP	2.5
5	Dushambe	ROADSIP	0.9
6	Chilubi	ROADSIP	0.5
7	Ituna	ROADSIP	0.6
8	Chikwa	ROADSIP	0.5
9	Addis Ababa	ROADSIP	4.5
10	Lagos	ROADSIP	0.9
11	Joseph Mwilwa	ROADSIP	0.9
12	Omelo Mumba	ROADSIP	0.8
13	Bwinjimbumu	ROADSIP	1.1
14	Makishi	ROADSIP	2.6
15	Parirenyatwa	ROADSIP	1
16	Nangwenya	ROADSIP	1.7
17	Tito	ROADSIP	1
18	Lubu	ROADSIP	1
19	Los Angeles Blvd	ROADSIP	1
20	Birdcage Walk	ROADSIP	1.3
21	Suez	ROADSIP	0.4
22	Haile Sellasie	ROADSIP	1.5
23	Nangwenya/Katima	ROADSIP	1.5
	<b>Total</b>		<b>35.1</b>

MINISTRY OF  
 5 JUL 2005  
 PROJECT NO. 5007  
 PROJECT WAY 12

+

*Farm*

ORIGINAL



**TENDER FOR ROUTINE MAINTENANCE OF  
REHABILITATED ROADS AND STREETS IN LUSAKA  
ZONE 6**

**AS A JOINT VENTURE BETWEEN  
BRIC-TECH CONSTRUCTION  
AND  
PUSH / WFP**

Bric-Tech Construction LTD  
Postnet # 106  
Private Bag E891  
Lusaka  
Tel: 2601-243434  
Fax: 2601-243396  
Email: [brictech@coppernet.zm](mailto:brictech@coppernet.zm)

LLB



**LUSAKA CITY ROADS - ZONE 6: EASTERN AREA**

ITEM	ROAD NAME	PROGRAMME	LENGTH(Km)
1	Los Angeles Blvd	JICA	2.5
2	Leopards Hill	ROADSIP	4.8
3	Twin Palm	ROADSIP	2.3
4	Lake	ROADSIP	3
5	Mosi-o-Tunya	ROADSIP	1.3
6	Mwapona	ROADSIP	0.7
7	Buluwe	ROADSIP	1.6
8	United Nations	ROADSIP	0.8
9	Ng'umbo	ROADSIP	1.5
10	Mzee Kenyatta	ROADSIP	0.4
11	Mpangwe	ROADSIP	0.2
12	Speaker's Lane	ROADSIP	0.4
13	Nehru	ROADSIP	0.8
14	Nyerere	ROADSIP	0.6
15	Chila	ROADSIP	1
16	Kabulonga	ROADSIP	2.3
17	Roan	ROADSIP	2.1
18	Sable	ROADSIP	1.8
19	Kudu	ROADSIP	1.5
20	Bishops	ROADSIP	0.9
21	Chindo	ROADSIP	1.8
22	Mutende	ROADSIP	1.3
23	Mwatusanga	ROADSIP	0.8
24	Impala	ROADSIP	0.5
25	Gore Brown	ROADSIP	0.2
26	Robert Kennedy	ROADSIP	0.3
27	Brentwood	ROADSIP	0.9
28	Chinungu	ROADSIP	0.1
29	Muntaka	ROADSIP	0.1
30	Lewanika	ROADSIP	0.3
31	Msuzi	ROADSIP	0.6
32	President's Lane	ROADSIP	1
33	Dunduzza Chisidza	ROADSIP	1.2
34	Ngwee	ROADSIP	0.3
35	Tukuluho	ROADSIP	0.3
36	Friday's Corner	ROADSIP	0.2
37	Mother Theresa	ROADSIP	0.8
	<b>TOTAL</b>		<b>41.2</b>

*6*

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*FMM M*

## 5 . 基本設計概要表

資料-5 基本設計概要表

1. 案件名
ザンビア国第3次ルサカ市道路網整備計画事業化調査
2. 要請の背景
<p>1964年の独立以来、ザンビア政府は近隣諸国及び首都と地方を結ぶ道路建設を国家開発計画の主眼としてきた。その結果、道路延長は増加したものの、維持管理予算が小額であったことに加え、近年の経済的落ち込みにより、道路維持管理が十分に行われず、舗装の破損が進行した。</p> <p>ルサカ市内の道路においては、近年の人口の増加に伴う自動車交通量の増加、維持管理予算及び人的資源の不足などから道路維持管理が十分に行われなかったため、道路の破壊が急速に進行した。その結果、その破損の程度は通常の維持管理では対処できない状態に至った。</p> <p>このような状況を背景として、ザンビア政府は、我が国政府に対し無償資金協力による道路改修を要請し、1997年及び2003年の2回にわたり道路改修工事が実施された。本プロジェクトは、人口密度の高い未計画居住区（コンパウンド）の生活環境の改善を目的として、コンパウンド内4路線の改修を実施するものである。</p>
3. プロジェクト全体計画概要
<p>(1) プロジェクト全体計画の目標</p> <p>ア) ルサカ市内の未計画居住区（コンパウンド）において、円滑な交通が確保される。</p> <p>イ) コンパウンド住民の生活環境が改善される。</p> <p>(2) プロジェクト全体の成果</p> <p>ア) <u>生活道路が整備されることで、雨季の通行不能区間が解消され、通年交通が可能になる。</u></p> <p>イ) バスルートが整備され、コンパウンド住民の通勤・通学が短縮する。</p> <p>ウ) 緊急自動車の到達時間が早くなるため、病院へのアクセス時間の短縮と病院の管轄区域の広域化が可能になる。</p> <p>エ) 交通安全性が向上する。</p> <p>オ) プロジェクトを通じて道路補修技術の習得が図られ、雇用機会の拡大に貢献する。</p> <p>(3) プロジェクト全体計画の主要活動</p> <p>ア) <u>未計画居住区（コンパウンド）内の4路線（バウレニ道路 1.08km、カレア-ンゴンベ道路 0.88km、カサングラ道路 5.26km、チタンダ道路 3.321km）の現道を改良する。</u></p> <p>イ) <u>流末までの側溝整備による排水不良を解消する。</u></p> <p>ウ) <u>バス停及び回転所の設置によりバス路線を整備する。</u></p> <p>エ) <u>ランプや横断歩道など交通安全施設を整備する。</u></p> <p>(4) 投入(インプット)</p> <p>ア) 日本側 : 無償資金協力 7.06 億円</p> <p>イ) 相手国側 :</p> <p>必要な人員 : 道路維持管理計画の策定要員</p> <p>施設・機材の運営・維持管理に係る経費 : 年間約 136 万円</p> <p>埋設物等の移設費用 : 約 44 万円</p> <p>(5) 実施体制</p> <p>実施機関 : ルサカ市技術局</p> <p>主管官庁 : 地方自治・住宅省 インフラ支援サービス局</p>

4. 無償資金協力の内容
(1) サイト ザンビア国ルサカ市の未計画居住区（コンパウンド）
(2) 概要 ザンビア国ルサカ市における 4 路線について道路改良工事を実施する
(3) 相手国負担事項 電柱移設 2 箇所
(4) 概算事業費 概算事業費 7.06 億円（無償資金協力 7.06 億円、ザンビア側負担 44 万円）
(5) 工期 入札図書作成と入札期間を含めて約 16 ヶ月（予定）
(6) 貧困、ジェンダー、環境及び社会面の配慮 土地収用や建物移転が発生しない計画とし、社会環境へのインパクトが最小となるよう配慮した。
5. 外部要因リスク
維持管理予算が確保できなくなる。
6. 過去の類似案件からの教訓の活用
特になし
7. プロジェクト全体計画の事後評価に係る提案
(1) プロジェクト全体計画の目標達成を示す成果指標 車両走行速度 20km/hr（現状）から 40km/hr への改善 バス路線における通年 83 日間の通行不能日が改善される
(2) その他の成果指標 バス路線の確保
(3) 評価のタイミング 2008 年以降（事業完成一年後）

## 6 . 技術資料

資料-6.1 現況交通量調査結果集計表

単位:台/12h

チタンダ道路	チタンダ小学校付近			合計
	南	北	南	
乗用車	714	801	1515	
バス/トラック	91	74	165	
トレーラー	2	1	3	
合計	807	876	1683	

単位:台/12h

カサングラ道路	チバタ道路付近			ザンベジ道路付近			合計
	西	東	西	東	西	東	
乗用車	1,676	1,712	3,388	582	593	1,175	
バス/トラック	161	160	321	20	21	41	
トレーラー	4	5	9	3	4	7	
合計	1,841	1,877	3,718	605	618	1,223	

単位:台/4h

グレート・ノース道路(GNR)	グレート・ノース道路			GNR カティムムリロ道路方向			カティムムリロ GNR方向		
	北	南	北	南	東	西	東	北	南
乗用車	2,556	2,253	4,809	604	320	924	432	680	1,112
バス/トラック	180	105	285	66	56	122	84	57	141
トレーラー	23	68	91	12	5	17	10	17	27
合計	2,759	2,426	5,185	682	381	1,063	526	754	1,280

資料-6.2 現況舗装厚調査結果

測点	表層	基層	下層	路床
パウレニ道路				
Km 0.20	40mm Asphalt	40 – 190mm Laterite Gravel	190 – 340mm Laterite Gravel	340 – 1000mm Brown Sandy Clay Loam
Km 0.50	20mm Asphalt	20 – 170mm Gravel		170mm – Fine Sandy Loam
Km 1.00	10mm Asphalt	10 – 210mm Laterite Gravel		210mm – Brown Sandy Clay Loam
カレヤ - んゴンベ道路				
Km 0.20		0 – 150mm Mainly Rock		150mm – Brown Fine Sandy Clay Loam
Km 0.35	20mm Asphalt	20 – 170mm Laterite Gravel		170mm – Fine Sandy Loam
Km 0.75		0 – 300mm Gravel	300 – 550mm Gravel Shales	550 – 1000mm Softy Shales
チタンダ道路				
Km 0.2	25mm Asphalt	25 – 230mm Laterite Gravel	230 – 380mm Brown Fine Sandy Loam	380mm – Gravel
Km 1.0	25mm Asphalt	25 – 250mm laterite Gravel		250mm – Brown Sandy Clay Loam
Km 1.4		0 – 250mm Gravel	250 – 450mm Grey Sandy Clay Loam	450 – 1000mm Laterite Gravel
Km 1.9		0 – 200mm Gravel	200 – 500mm Gravel	500 – 1000mm Brown Fine Sandy Loam
Km 2.5		0 – 600mm Gravel		600 – 1000mm Brown Sandy Clay Loam
Km 2.8	20mm Organic Material	20 – 500mm Dark Brown Sandy Clay Loam		500 – 1000mm Light Brown Sandy Clay Loam
カサンガラ道路				
Km 0.2		0 – 500mm Organic Material		500mm – Gravel
Km 0.9		0 – 260mm Brown Sandy Clay Loam		260mm – Brown Laterite Gravel and Shales
Km 2.07		0 – 130mm Radish Laterite Gravel	130 – 330 mm Brown Laterite Gravel	330mm – Brown Laterite Gravel and Shales
Km 2.6		0 – 200mm Gravel	200 – 335mm Brown Fine Sandy Loam	335mm – Gravel
Km 3.3	20mm Asphalt	20 – 200mm Stabilized Base Gravel		200mm – Gravel
Km 3.9	30mm Asphalt	30 – 100mm Gravel	100 – 250mm Gravel	250mm – Gravel
Km 4.5	23mm Asphalt	23 – 230mm Gravel	230 – 520mm Gravel	520 – 1000mm Softy Shales
Km 5.1	20mm Asphalt	20 – 170mm Gravel	170 – 270mm Radish Laterite Gravel	270mm – Grey Fine Sandy Loam

資料-6.3 現況路床強度調査結果(1)

測点	路床材料の状況	ふるい試験 (最大 2 mm 通過)	比重試験	液性限界	塑性限界	塑性指数	自然含水比	最大乾燥重量 Kg/m3	最適含水比	CBR
パウレニ道路 Km 0.20	Brown Sandy Clay Loam	Max:13.2mm 2 mm : 77.3%	2.60	25	15.5	9.5	8.8	2,096	10.4	92%: 2 95%: 5 98%: 8
										92%: 6 95%: 8 98%: 11
* In previous study	Brown Clay	Max:9.5mm 2 mm: 97.7%	2.45	20.9	17.3	3.6	4.9	2,172	8.7	95%: 42 98%: 63
カレヤ - ングオンベ道路 Km 0.75	Gravel Shales	Max:26.5mm 2 mm: 27.6%	2.59	36.6	27.1	9.5	8.1	2,108	8.7	92%: 25 95%: 34 98%: 41
										92%: 6.5 95%: 7.5 98%: 8
* In previous study	Softy Shales	Max:19.0mm 2 mm: 64.9%	2.61	28	21	7	16.0	1,910	14.2	95%: 8 98%: 11
* In previous study	Reddish brown gravel		2.56	28.6	24.7	3.9	3.6	2,060	10.7	95%: 15 98%: 19
チャタング道路 Km 1.40	Laterite Gravel	Max:26.5mm 2 mm: 24.9%	2.62	22	18.5	3.5	7.2	2,122	7.6	92%: 41 95%: 51 98%: 62
										92%: 15 95%: 32 98%: 60
Km 2.50	Gravel	Max:37.5mm 2 mm: 42.9%	2.66	22.5	19.1	3.4	11.6	2,040	8	92%: 18 95%: 22 98%: 26
* In previous study	Brown Sandy Clay Loam	Max:2.36mm 2 mm: 98.8%	2.59	25.6	17.4	7.2	8.8	1,940	12.7	92%: 4 95%: 5 98%: 6
Km 2.80	Dark Brown Sandy Clay Loam	Max:9.5mm 2 mm: 99.4%	2.62	27	13.7	13.3	8.4	1,968	11.7	92%: 12 95%: 15 98%: 19
* In previous study	Light Brown Sandy Clay Loam	Max:2.36mm 2 mm: 99.0%	2.60	26	17.3	8.7	8.4	1,975	12.3	92%: 10 95%: 13 98%: 16
* In previous study	Brown Silty Clay		2.55	22.8	19.1	3.7	10.6	1,968	11.5	95%: 20 98%: 24
カサングラ道路 Km 2.07	Brown Laterite Gravel and Shales	Max:26.5mm 2 mm: 53.9%	2.63	23	21.3	1.7	4.5	2,172	6.5	92%: 25 95%: 31 98%: 39
										92%: 5 95%: 7 98%: 9
Km 4.50	Gravel	Max:19.0mm 2 mm: 78.1%	2.67	25	20.8	4.2	9.0	2,040	8.8	92%: 18 95%: 22 98%: 28
* In previous study	Softy Shales	Max:26.5mm 2 mm: 43.4%	2.61	26.1	13.1	13	5.7	2,146	8.3	92%: 7 95%: 9 98%: 11
* In previous study	Gravel in brown clay soil	Max:37.5mm 2 mm: 78.9%	2.60	28.4	20.1	8.3	10.7	2,012	8.5	92%: 7 95%: 9 98%: 11
* In previous study	Brown Silty Sand		2.56	23	19.2	3.8	12.5	2,060	9.4	95%: 44 98%: 65
			2.45	24	50.5	3.5	9.0	1,952	11.6	95%: 9 98%: 12



## 資料-6.4 現況路床強度調査結果(2)

上層路盤材 (AASHTO)	ふるい目盛 (mm) 通過割合 (%)	(50) 100	25 / 26.5 -	9.5 30 - 65	4.75 25 - 55	2 15 - 40	0.425 8 - 20	0.075 2 - 8
下層路盤材 (AASHTO)	ふるい目盛(mm) 通過割合 (%)	(50) 100	25 / 26.5 75 - 95	9.5 40 - 75	4.75 30 - 60	2 20 - 45	0.425 15 - 30	0.075 5 - 20
測 点								
パウレニ道路								
0.20km		100	100	98.0	90.6	77.3	67.1	39.4
カレヤ - ンゴンベ 道路								
0.75km			97.0	66.8	39.2	27.6	24.9	16.8
チタンダ道路								
1.40km			97.5	72.0	43.1	24.9	22.3	11.0
2.50km			85.0	69.8	55.0	42.9	36.0	23.4
2.80km			100	100	100	99.4	96.0	59.5
カサンガラ道路								
2.07km			96.8	83.7	56.2	53.9	48.3	31.4
4.50km			94.1	72.7	56.8	43.4	39.6	22.9

資料-6.5 設計CBR値の検討

パウレニ道路

距離(m)		200		400		600		800		1000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	6.1		4.0		3.2		3.5		35.6	5.2
	上層路盤	24.0	10.6	4.0	53.8	3.3	54.5	37.0	3.9	34.4	2.0
	下層路盤	17.3	8.7					21.5	2.5		3.0
	路床		4.2						2.5		
	水浸CBR	(CL)	6.0	(LHS)		(LHS)		(CL)		(LHS)	
Required TA											
設計	表層	4		4		4		4		4	
	上層路盤	10		10		10		10		10	
	下層路盤	10		10		10		10		10	
	(下層路盤)	20.0		20		20		20		20	
	合計	24		24		24		24		24	
設計 CBR		6.0		6.0		6.0		6.0		6.0	

カレヤンゴンベ道路

距離(m)		200		400		600		800		1000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層			4.5		2.9				26.6	25.0
	上層路盤	11.0	25.0	4.5	28	20.9	11.6	8	25	29.5	6.5
	下層路盤					20.9	46.5				
	路床						33.2				
	水浸CBR	(CL)		(LHS)		(RHL)		(CL)	5.5	(LHS)	
設計	表層										
	上層路盤										
	下層路盤										
設計 CBR		5.5		5.5		5.5		5.5		5.5	

チタンダ道路(1)

距離(m)		200		400		600		800		1000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	3.5		4.5		2.9		1.5		2.3	
	上層路盤	12.5	14.1	4.5	28	20.9	11.6	1.8	19.5	28.2	76.8
	下層路盤	15.2	22.6			20.6	46.5	9.8	16.3	52.7	23.7
	路床		10.4				33.2		4.0		
	水浸CBR	(RHS)		(CL)		(LHS)		(RHS)		(CL)	
設計	表層										
	上層路盤										
	下層路盤										
設計 CBR		10.0		10.0		10.0		4.0		15.0	

チタンダ道路(2)

距離(m)		1200		1400		1600		1800		2000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	1.2									
	上層路盤	5.0	76.0	47	38.5	11.9	14.1	3	30.8	29	72.6
	下層路盤					10.8	5.5			29.4	23.4
	路床						5				
	水浸CBR	(CL)		(LHS)		(LHS)		(CL)		(CL)	5
設計	表層										
	上層路盤										
	下層路盤										
設計 CBR		15.0		15.0		5.0		5.0		5.0	

チタンダ道路(3)

距離(m)		2200		2400		2600		2800		3000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	25.3	54.7	38.5	11.7	4	36.1	7.5	18.2	10.4	76.8
	上層路盤	43.5	20.2	39	9.7						
	下層路盤				9		5		14.0		14.0
	路床										
	水浸CBR	(LHS)		(RHS)		(RHS)		(CL)		(LHS)	
設計	表層										
	上層路盤										
	下層路盤										
設計 CBR		4.0		4.0		4.0		10.0		10.0	

カサングラ道路(1)

距離(m)		200		400		600		800		1000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	22.0	7.4	3.1		21.1	6.4	28.4	4.7	22	17.8
	上層路盤			31.3	8	0	4.3	49.1	2.1	55.3	19.8
	下層路盤					0	2.1				
	路床										
	水浸CBR	(CL)		32.0	(RHS)		(LHS)		(CL)		(RHS)
設計	表層										
	上層路盤										
	下層路盤										
設計 CBR		8.0		8.0 (Replacement)		5.0 (Replacement)		5.0 (Replacement)		5.0 (Replacement)	

カサングラ道路(2)

距離(m)		1200		1400		1600		1800		2000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層										
	上層路盤	25.1	45.7	38.5	38.5	11.9	14.1	4.4	31.3	11.7	28.6
	下層路盤	26.1	29.1	0	37.2	10.8	5.5				
	路床			415	24.1		5				
	水浸CBR	(RHL)		(LHS)		(LHS)		(CL)		(CL)	5
設計	表層										
	上層路盤										
	下層路盤										
	設計 CBR	(Replacement)	5.0		5.0		5.0		5.0		5.0

カサングラ道路(3)

距離(m)		2200		2400		2600		2800		3000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	0.0						43		1.9	
	上層路盤	0.0	21.6	22.7	42.1	67	25.8	31.6	12	18.9	33.3
	下層路盤			39.7	19.9			49.9	7.9		
	路床			37.4	36.9						
	水浸CBR	(LHS)		(RHS)		(RHS)	9	(CL)		(CL)	
設計	表層										
	上層路盤										
	下層路盤										
	設計 CBR		5.0		9.0		9.0		9.0		20.0

カサングラ道路(4)

距離(m)		3200		3400		3600		3800		4000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	3.0		2.4		2.6		25		6.8	
	上層路盤	4.6	58.2	5.4	56.5	22.1	54.5	60	35	7.5	20.4
	下層路盤					58	12.6				
	路床										
	水浸CBR		14.0	(CL)		(LHS)		(RHS)		(CL)	33
設計	表層										
	上層路盤										
	下層路盤										
	設計 CBR		20.0		20.0		20.0		20.0		20.0

カサングラ道路(5)

距離(m)		4200		4400		4600		4800		5000	
		厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)	厚さ(cm)	CBR(%)
既設	表層	3.2		2.7		2.2		2.9		0	
	上層路盤	24.5	10.4	26.2	15.9	6.1	33.2	10.5	36.5	0	11.1
	下層路盤	52.7	21.3	23.3	6.6						
	路床			55.1	8.7						
	水浸CBR			(RHS)	7	(CL)		(LHS)		(RHS)	7
設計	表層										
	上層路盤										
	下層路盤										
	設計 CBR		7.0		7.0		7.0		7.0		7.0