APPENDICES-STANDARD FORMS, DOCUMENTS AND TEMPLATES	August 2016

Standardizing Quality Requirements for RDA Projects

ROAD DEVELOPMENT AGENCY

APPENDIX A. PROJECT SCOPE MANAGEMENT DOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
SMP1101	Scope Management plan

SMP1101 TEMPLATE FOR SCOPE MANAGEMENT PLAN

Road Development Agency			
Consultant: Name of Engineer	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*
SCOPE MANAGEMENT PLAN REVISION NO…….. [Insert Picture]			

Below a comprehensive overview of issues to be dealt with in the Standard Project Scope Management is provided. It should be remembered that no project is similar. In other words the actual project circumstances would almost certainly give rise to the need to either make changes and or additions to the SMP format given here. Hence the SMP format given should not be interpreted to be dictative. The User is encouraged to deviate from the standard format, provided all essential issues shown in this SMP format are properly addressed.

(Suggested outline for Project Scope Management's contents)

SERIES 1000: PROJECT SCOPE MANAGEMENT

Contents

Introduction

Scope Management is the collection of processes which ensure that the project includes all the work required to complete it while excluding all work which is not necessary to complete it. The Scope Management Plan details how the project scope will be defined, developed, and verified. It clearly defines who is responsible for managing the projects' scope and acts as a guide for managing and controlling the scope.

Project Scope Management follows a five step process; Collect Requirements, Define Scope, Create WBS, Verify Scope, and Control Scope of which most supervising Consultant managing RDA Projects will be involved with the last two items.

1) Collect Requirements – this first step is the process by which we define and document the requirements needed to meet all project objectives. The foundation of this process is the project charter and stakeholder register. From these, the team can identify requirements, collectively discuss details associated with meeting each requirement, conduct interviews and follow-on discussion to clarify the requirements, and document the requirements in sufficient detail to measure them once the project begins the execution phase. This documentation also serves as an input to the next step in the process which is to define scope.

2) Define Scope – this step is critical to project success as it requires the development of a detailed project/product description to include deliverables, assumptions, and constraints and establishes the framework within which project work must be performed.

3) Create WBS – this process breaks project deliverables down into progressively smaller and more manageable components which, at the lowest level, are called work packages. This hierarchical structure allows for more simplicity in scheduling, costing, monitoring, and controlling the project.

The Client is involved in steps 1 to 3 on most projects except for Techno Economic Study, detailed Engineering designs and Tender Document preparation

4) Verify Scope – this is the process by which the project team receives a formalized acceptance of all deliverables with the client and at times the Client is 100% involved at this stage.

5) Control Scope – this is the process of monitoring/controlling the project/product scope as well as managing any changes in the scope baseline. Changes may be necessary to the project scope but it is imperative they are controlled and integrated in order to prevent scope creep. Consultants will be expected to demonstrate their professional skills by controlling scope.

Scope Management Approach

It is important that the approach to managing the projects' scope be clearly defined and documented in detail. This section provides a summary of the Scope Management Plan in which it addresses the following:

- *Who has authority and responsibility for scope management*
- *How the scope is defined (i.e. Scope Statement, WBS, WBS Dictionary, Statement of Work, etc.)*
- *How the scope is measured and verified (i.e. Quality Checklists, Scope Baseline, Work*

Performance Measurements, etc.)

- *The scope change process (who initiates, who authorizes, etc.)*
- *Who is responsible for accepting the final project deliverable and approves acceptance of project scope*

Roles and Responsibilities

In order to successfully manage a projects' scope it's important that all roles and responsibilities for scope management are clearly defined. This section defines the role of the Project Manager, Project Team, Engineer's Representatives, Stakeholders and other key persons who are involved in managing the scope of the project. It should state who is responsible for scope management and who is responsible for accepting the deliverables of the project as defined by the projects' scope. Any other roles in scope management should also be stated in this section.

Table 1.1 can be used to make reference easy as shown below.

Table 1.1

Name	Role	Responsibilities

Table 1.1, *Scope Management Roles and Responsibilities*

Scope Definition

The scope definition section details the process of developing a detailed description of the project and its deliverables. This can only be completed after the requirements have been identified and defined during the requirements definition process. During the requirements definition process three documents were created; Requirements Documentation, Requirements Management Plan and a Requirements Traceability Matrix. You can refer to these documents when defining the projects' scope.

This section should explain the process that was followed in developing the detailed description of the project and its deliverables. If other documents such as the Project Charter, Preliminary Project Scope Statement or Requirements Documentation were used, these should be clearly identified. The scope definition process should be tied back to the requirements definition as the projects' scope answers the requirements for the project. The tools and techniques used to define the project scope such as expert judgment, product analysis, alternatives identification or facilitated workshops should also be documented.

For Supervising Consultant scope definition may be not applicable because scope definition for works is usually defined by the Agency.

Project Scope Statement

The project scope statement provides a detailed description of the project, deliverables, constraints, exclusions, assumptions, and acceptance criteria. Additionally, the scope statement includes what work should not be performed in order to eliminate any implied but unnecessary work which falls outside the of the project's scope.

The project scope statement details the project's deliverables and the work necessary to create these deliverables. The Project Scope Statement should contain the following components:

- *Product Scope Description – describes what the project will accomplish*
- *Product Acceptance Criteria – describes what requirements must be met in order for the project to be accepted as complete*
- *Project Deliverables – detailed list of deliverables the project will result in*
- *Project Exclusions – description of work that is not included in the project and outside of the scope*
- *Project Constraints – lists limits on resources for time, money, manpower, or equipment (capital)*
- *Project Assumptions – describes the list of assumptions the project team and stakeholders are working under to complete the project*

The Consultant will be expected to understand the scope of works fully and be able to advise the client during project execution stage. Project scope statement should be easy for the professional consultant to compile and analysis.

Work Breakdown Structure (Wbs)

The Work Breakdown Structure (WBS) and Work Breakdown Structure Dictionary are key elements to effective scope management. This section should discuss how the project scope is to be subdivided into smaller deliverables in the WBS and WBS Dictionary and how these smaller components are managed during the life of the project. The WBS can later be used to develop a schedule of works. Consultants are advised to spend more time on these aspects for better scope management.

Scope Verification

Scope verification discusses how the deliverables will be verified against the original scope and how the deliverables from the project will be formally accepted. The deliverables for the project should be formally accepted and signed off by the consultant throughout the lifecycle of the project and not held back as a single deliverable at the end of the project.

Scope Control

Scope control is the process of monitoring the status of the scope of the project. This section also details the change process for making changes to the scope baseline and formats used to adopt scope changes on RDA projects.

The Project Manager's representative and the Contractor's project team leader will work together to control the scope of the project. The Contractor's project team leader together with the Consultant will leverage the WBS Dictionary by using it as a statement of work for each WBS element. The project team will ensure that they perform only the work described in the WBS dictionary and generate the defined deliverables for each WBS element. The Project Manager's representative will oversee the project team and the progression of the project to ensure that this scope control process if followed.

If a change to the project scope is needed the process for recommending changes to the scope of the project must be carried out. The Contractor, Consultant or client can request changes to the project scope. All change requests must be submitted to the Project Manager's representative in the form of a project change request document. The Project Manager's representative will then review the suggested change to the scope of the project. The Project Manager's representative will then either deny the change request if it does not apply to the intent of the project or convene a change control meeting between the project team and client to review the change request further and perform an impact assessment of the change. If the change request receives initial approval by the Project Manager's representative and client, during the meeting the Project Manager's representative will then formally submit the change request to in the required formats as presented under Variation orders of the RDA guideline manual. The client will then formally accept the change by responding with the letter of approval.

APPENDIX B: PROJECT TIME MANAGEMENT DOCUMENTS, STANDARD FORMS AND TEMPLATES

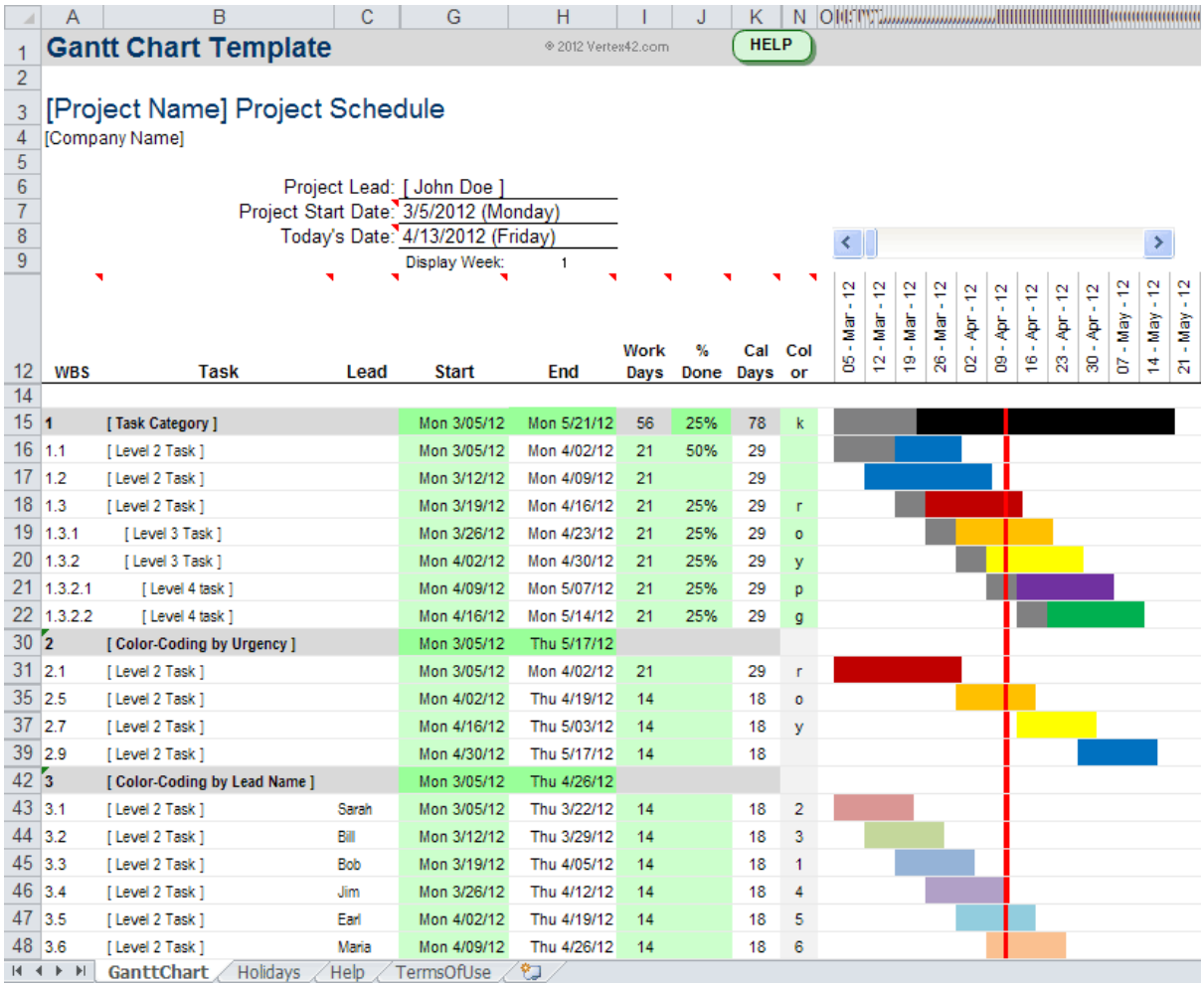
Standard Form Number	Description or Title of Document
SFS 2301	Standard Format for Schedule
EOT.2501	Standard Format For Extension of Time
TOC.2601	Taking-Over Certificate- Part of the Works
TOC.2602	Taking-Over Certificate- Substantial Completion
DLPC.2701	Defects Liability Period Certificate

SFS 2301 Standard Format for Schedule

Road Development Agency			
Consultant: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
SCHEDULE OF WORKS…….. Date Gantt charts created: Date program approved: Last Date schedule updated			

Below a comprehensive overview of issues to be dealt with in the Standard Work Schedule is provided. It should be remembered that no project is similar. In other words the actual project circumstances would almost certainly give rise to the need to either make changes and or additions to the SFS format given here. Hence the SFS format given should not be interpreted to be dictative. The User is encouraged to deviate from the standard format, provided all essential issues shown in this SFS format are properly addressed.

Gantt Chart, prepared using Microsoft Project



Gantt Chart Template © 2012 Vertex42.com HELP

[Project Name] Project Schedule

[Company Name]

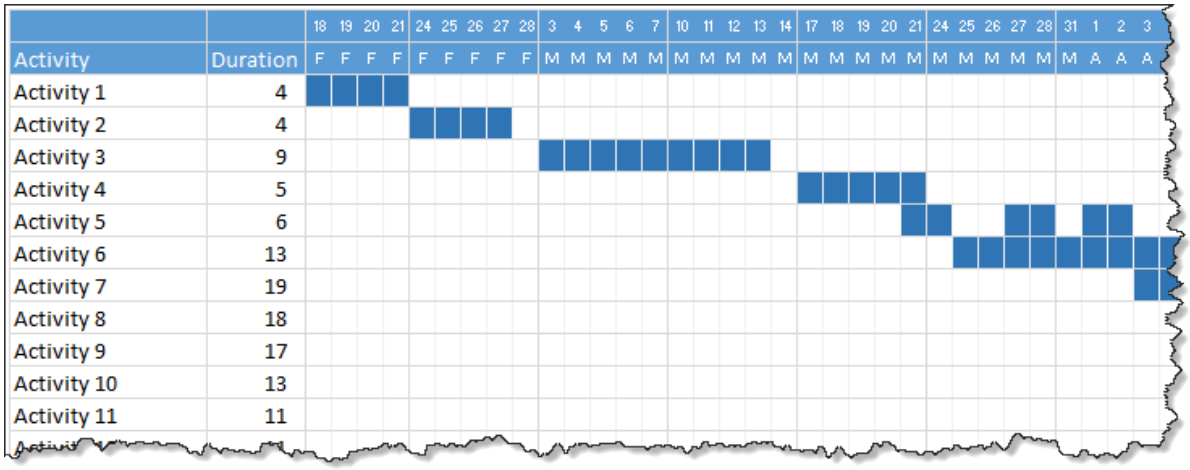
Project Lead: [John Doe]
Project Start Date: 3/5/2012 (Monday)
Today's Date: 4/13/2012 (Friday)
Display Week: 1

WBS	Task	Lead	Start	End	Work Days	% Done	Cal Days	Color
1	[Task Category]		Mon 3/05/12	Mon 5/21/12	56	25%	78	k
1.1	[Level 2 Task]		Mon 3/05/12	Mon 4/02/12	21	50%	29	
1.2	[Level 2 Task]		Mon 3/12/12	Mon 4/09/12	21		29	
1.3	[Level 2 Task]		Mon 3/19/12	Mon 4/16/12	21	25%	29	r
1.3.1	[Level 3 Task]		Mon 3/26/12	Mon 4/23/12	21	25%	29	o
1.3.2	[Level 3 Task]		Mon 4/02/12	Mon 4/30/12	21	25%	29	y
1.3.2.1	[Level 4 task]		Mon 4/09/12	Mon 5/07/12	21	25%	29	p
1.3.2.2	[Level 4 task]		Mon 4/16/12	Mon 5/14/12	21	25%	29	g
2	[Color-Coding by Urgency]		Mon 3/05/12	Thu 5/17/12				
2.1	[Level 2 Task]		Mon 3/05/12	Mon 4/02/12	21		29	r
2.5	[Level 2 Task]		Mon 4/02/12	Thu 4/19/12	14		18	o
2.7	[Level 2 Task]		Mon 4/16/12	Thu 5/03/12	14		18	y
2.9	[Level 2 Task]		Mon 4/30/12	Thu 5/17/12	14		18	
3	[Color-Coding by Lead Name]		Mon 3/05/12	Thu 4/26/12				
3.1	[Level 2 Task]	Sarah	Mon 3/05/12	Thu 3/22/12	14		18	2
3.2	[Level 2 Task]	Bill	Mon 3/12/12	Thu 3/29/12	14		18	3
3.3	[Level 2 Task]	Bob	Mon 3/19/12	Thu 4/05/12	14		18	1
3.4	[Level 2 Task]	Jim	Mon 3/26/12	Thu 4/12/12	14		18	4
3.5	[Level 2 Task]	Earl	Mon 4/02/12	Thu 4/19/12	14		18	5
3.6	[Level 2 Task]	Maria	Mon 4/09/12	Thu 4/26/12	14		18	6

05 - Mar - 12 | 12 - Mar - 12 | 19 - Mar - 12 | 26 - Mar - 12 | 02 - Apr - 12 | 09 - Apr - 12 | 16 - Apr - 12 | 23 - Apr - 12 | 30 - Apr - 12 | 07 - May - 12 | 14 - May - 12 | 21 - May - 12

GanttChart | Holidays | Help | TermsOfUse

Gantt Chart, prepared using Microsoft excel



Activity	Duration	18 F	19 F	20 F	21 F	24 F	25 F	26 F	27 F	28 F	3 M	4 M	5 M	6 M	7 M	10 M	11 M	12 M	13 M	14 M	17 M	18 M	19 M	20 M	21 M	24 M	25 M	26 M	27 M	28 M	31 M	1 A	2 A	3 A
Activity 1	4																																	
Activity 2	4																																	
Activity 3	9																																	
Activity 4	5																																	
Activity 5	6																																	
Activity 6	13																																	
Activity 7	19																																	
Activity 8	18																																	
Activity 9	17																																	
Activity 10	13																																	
Activity 11	11																																	

Note: Gantt charts should illustrate the start and finish dates of the terminal elements and summary elements of a project. The Gantt chart should explicitly be prepared based on the Zambian calendar to avoid labour disputes which might arise due to issues of gazetted and non-gazetted Government holidays.

Consultants and Contractors are encouraged to track Financial and Physical progress using Gantt Charts.

Consultants are encouraged to advise Contractors to present Program of works on A3 or larger.

EOT.2501 Standard Format for Extension of Time

Table of Contents.

2501.1 Procedure for Apply Extension of Time.

A Possible factors which might trigger the thought of Extension of Time.

- New or Extra Work not included in the original scope or contract.
- Unusual or Abnormal Adverse Weather Conditions.
- Encountering sub-surface conditions differing from the plans.

B Steps to be followed by Consultants and Contractors when instigating Extension of time

- The Contractor should notify the Project Manager's Representative (Consultant) of any suspected issue that may require an extension of time as soon as possible.
- The Project Manager's Representative (Consultant) should receive written request for time extension from contractor processing.
- The written request should be reviewed by Project Manager's Representative
- Review and Decision made by Project Manager's Representative
- Response Letter Signed by Project Manager's Representative
- Process Change Order if appropriate

C Request from the Contractor to the Project Manager's Representative must:

- Be copied to the Regional Manager
- Be within 20 days of issue occurring
- Be in writing and include:

  ✓ Specific issue causing the delay.
  ✓ Ramifications to contractor's progress because of delay.
  ✓ Exact amount of time being requested.

D Project Manager's Representative reviews

Verify and evaluate within 5 working days

- Is the request within twenty (20) days of issue occurring?
- Is the issue documented?
- Is it noted in the Daily Reports?

For Verification: Construction Project Manager assembles detailed documentation regarding issue from the Daily Reports. Include very specific details including:

- Ramifications to contractor's progress
- What did the contractor do?
- Where did the contractor go?
- Pertinent sketches, photographs, or pictures
- Is the item in the project's critical path?
- Did it affect both immediate and overall progress of the project?
- Does more documentation need to be assembled?
  ✓ Are the facts of the issue correct?
  ✓ Are the stated ramifications valid?
  ✓ Does the amount of time seem reasonable?

Road Development Agency		Date:

- Review with Contractor

  ✓ Any issues needing clarification
  ✓ Recommendations being given to Project Manager's Representative

- Review with Project Sponsor within the same 5 working days
  ✓ Issue and recommendations being given to Project Manager's Representative

The first litmus test on extensions is: could the Contractor have reasonably overcome the circumstance to keep the project on schedule?

E Review and Decision by Project Manager's Representative.

- Contract Administrator will review the issue and recommendations made within 5 working days.

F Response Letter Signed by Project Manager's Representative.

Possible Responses

- Denial Letter.
- Recommendation to process Change Order letter:
- Need more information letter.

G Helpful Tips when considering requests for Time Extensions.

✓ Need to act timely.
✓ Time Extensions when starting contract later than expected.
✓ Liquated Damages

Note: Be aware that if you process a Change Order to a contract after the completion date has passed, we may be at risk when trying to claim delay damages or liquidated damages for going beyond completion date. This is just a sample of the case law

.2501.2 Standard form for Extension of time

Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*

CERTIFICATE OF EXTENSION OF TIME FOR COMPLETION

To: *Name and address of Contractor*

Having received your letter ref. ……., dt. ……. with your written application within 28 days of the event first arising, or within such other reasonable time as found acceptable to us, all as stipulated in Clause [xxx] [insert clause] of the General Conditions of Contract.

And having duly considered the details of the case brought to our attention, we hereby, pursuant to Clause [xxx] [insert clause] of the General Conditions of Contract, Certify that you are granted an Extension of Time for Completion of:

Number of calendar days

Therewith the extended Date for Completion shall be *(insert date)*

The main reason for the delay incurred having been marked below is:

- Extra or additional work;
- Any cause of delay referred to in the General Conditions of Contract;
- Exceptionally adverse climatic conditions;
- Any delay, impediment or prevention by the Employer;
- Any other special circumstances which has occurred (other than through a default of or breach of contract by the you for which you are responsible)

Further details of the event causing delay are set out below:

(describe in further detail the cause for delay)

Signed: _____

Engineer's Representative

TOC.2601 Taking-Over Certificate- Part of the Works

Road Development Agency		Date:
_____		_____

Engineer:	Contractor:	Project Name:	Works Contract No.
Name of Engineer	*Name of Contractor*	Name of Project	*Number*

TAKING-OVER CERTIFICATE

OF SECTIONS OR PARTS OF THE WORKS

To: *Name and address of Contractor*

Having received your Notice, vide your letter ref. ….., dt. ……., requesting us to issue a Taking-over Certificate for a Section or Part of the Works, we hereby confirm to have assured ourselves of the fact that the section or part of the Works indicated below has been substantially completed and has satisfactorily passed any Tests on Completion prescribed by the Contract.

(describe the relevant section or part of the Works)

We confirm that this substantial completion concerns one of the following categories marked hereinafter:

- any Section in respect of which a separate Time for Completion is provided in the Appendix to Tender, or
- any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer and, otherwise than as provided for in the Contract, occupied or used by the Employer, or
- any part of the Permanent Works which the Employer has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure).

Accordingly, and pursuant to Clause [xxx] [insert clause] of the General Conditions of Contract, we hereby Certify that the above specified section or part of the Works has substantially been completed and handed over to the Employer on:

(insert date)

It is hereby agreed by you that you shall finish with due expedition all outstanding work during the Defects Liability Period for that section or part of the Works as detailed on the attached list. An undertaking to this effect you have signed on page 3 of this Certificate.

The period for the Defects Liability being *(insert number)* days the date for completion of the Defects Liability for this section or part shall, subject to the conditions of Clause [xxx] [insert clause] of the General Conditions of Contract, be:

(insert date)

Signed: _____ Signed: _____

Engineer's Representative Employer

Date:…….. Date:…….

Road Development Agency

Date:

Engineer:	Contractor:	Project Name:	Works Contract No. *Number*
Name of Engineer	*Name of Contractor*	Name of Project	

LIST OF OUTSTANDING WORK
FOR A SECTION OR PART OF THE WORKS

The following outstanding works shall be finished with due expedition during the Defects Liability Period for the relevant section or part of the Works as detailed below.

No.	Description of work item	Nature/Type (D-Defect, O-Omission, I-Incomplete)
1		
2		
3		

Signed: _____

Contractor

Date:

TOC.2602 Taking-Over Certificate- Substantial Completion

Road Development Agency			Date:
Engineer: Name of Engineer	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*

TAKING-OVER CERTIFICATE

To: *Name and address of Contractor*

Having received your Notice, vide your letter ref. ….., dt. …….., requesting us to issue a Taking-over Certificate for the whole of the Works, we hereby confirm to have assured ourselves of the fact that the whole of the Works have been substantially completed and have satisfactorily passed any Tests on Completion prescribed by the Contract.

Accordingly, and pursuant to Clause [xxx] [insert clause] of the General Conditions of Contract, we hereby Certify that the whole of the Works have substantially been completed and taken over by the Employer on:

(insert date)

It is hereby agreed by you that you shall finish with due expedition all outstanding work during the Defects Liability Period as detailed on the attached list to be signed by you. An undertaking to this effect you have signed on page 2 of this Certificate.

The period for the Defects Liability being *(insert number of days)* the date for completion of the Defects Liability shall, subject to the conditions of Clause [xxx] [insert clause] of the General Conditions of Contract, be:

(insert date)

Upon the issue of this Taking-Over Certificate with respect to the whole of the Works, one half of the Retention Money will be certified for payment to you Pursuant to Clause [xxx] [insert clause].

Signed: _____	Signed: _____
Engineer's Representative	Employer
Date:……	Date:……..

Road Development Agency			TOC.2602a Date:
Engineer: Name of Engineer	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*

LIST OF OUTSTANDING WORK

The following outstanding works shall be finished with due expedition during the Defects Liability Period as detailed below.

No.	Description of work item	Nature/Type (D-Defect, O-Omission, I-Incomplete)
1		
2		
3		

Signed: _____

Contractor

Date:

DLPC.2701 Defects Liability Period Certificate

Road Development Agency			Date:
Engineer: Name of Engineer	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*

DEFECTS LIABILITY CERTIFICATE

To: *Name and address of Contractor*

Having received your Notice, vide your letter ref. ….., dt. …….., requesting us to issue a Defects Liability Certificate for the whole of the Works, we hereby confirm to have assured ourselves of the fact that you have completed your obligations to execute and complete the Works and remedy any defects therein to our satisfaction.

Accordingly, and pursuant to Clause [xxx] [insert clause] of the General Conditions of Contract, we hereby Certify that you have completed all your Contractual obligations, including those pertaining to the Defects Liability obligations, on:

(insert date)

Your attention is drawn to the fact that your liability for unfulfilled obligations remains in force in accordance with Clause [xxx] [insert clause] of the General Conditions of Contract.

In case Retention Money has been retained to date, the other half of the Retention Money will be certified by us for payment to you, pursuant to Clause [xxx] [insert clause] of the General Conditions of Contract, upon the expiration of the Defects Liability Period for the Works. Provided that, in the event of different Defects Liability Periods having become applicable to different Sections or parts of the Permanent Works pursuant to Clause [xxx] [insert clause], the expression "expiration of the Defects Liability Period" shall, for the purposes of this Sub-Clause, be deemed to mean the expiration of the latest of such periods.

Signed: _____ Signed: _____

Engineer's Representative Employer

Date:…… Date:……..

APPENDIX C.: PROJECT COST MANAGEMENT DOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
IPC.3101	Interim Payment Certificates
VO.3301	Variation Order
BoQ.3401	Standard Bill of Quantities
IC.3501	Interest Claim
FF.3601	Financial Forecast
PP.3601	Physical progress

IPC.3101 Interim Payment Certificates

Road Development Agency

Date:

Engineer:	Contractor:	Project Name:	Works Contract No:
Name of Engineer	*Name of Contractor*	*Name of Project*	*Number*

INTERIM PAYMENT CERTIFICATE NO: ...

FOR THE PERIOD ..... TO ....., 200..

ROAD DEVELOPMENT AGENCY

NATIONAL ROAD FUND AGENCY

AWP PROJECT CODE:		Date of Measurement	CONTRACT No.:	ZPPA/CE/004/12
IPC No.:	20	27/Nov/14	Date of Submission of IPC:	
			Latest Date for Payment this IPC:	
PROJECT NAME:	Periodic Maintenance of App. 64 Km of T003, Ndolato Kitwe Dual Carriageway in Copperbelt Province		Province:	
			District:	
FUNDING AGENT:	National Road Fund Agency		Agreed Contract Sum (incl. VAT):	
			Contingency Sum (incl. VAT):	
CONTRACTOR:			Advance paid (incl. VAT):	
			Contract Start Date:	
SUPERVISING CONSULTANT:			Completion Date:	
			Revised Contract Sum:	
% VAT, this Contract:		16%	Revised Contingency Sum:	
% Retention, this Contract:		10%	Revised Completion Date:	

SUMMARY OF PREVIOUS INTERIM CERTIFICATES

No.	Date	Amount (ZMW)	No.	Date	Amount (ZMW)	No.	Date	Amount (ZMW)
1	20/01/2013	43,543,153.25	9			17		
2	26/03/2013	7,725,235.09	10			18		
3	13/06/2013	3,192,110.23	11			19		
4	07/08/2013	1,794,578.01	12			20		
5	07/09/2013	6,079,810.54	13			21		
6	07/10/2013	4,674,996.44	14			22		
7	22/10/2013	3,290,615.90	15			23		
8	07/11/2013	7,058,533.56	16			24		

Amount paid (excl. this IPC):	77,359,033.01	Balance on Contract Sum:	

Item	DESCRIPTION	Total to date	Total previous IPC's	This Certificate
1.0	WORKS & MATERIALS			
	Value certified:	181,128,606.91	176,676,581.96	4,452,024.94
	VAT (0.16%)	28,980,577.10	28,268,253.11	712,323.99
	Total certified incL. VAT:	*210,109,184.01*	*204,944,835.08*	*5,164,348.93*
	Percentage of Works completed:	*7 9.58%*		
2.0	RETENTION WITHHELD			
	Amount withheld:	18,112,860.69	17,667,658.20	445,202.49
	VAT (0.16%)	2,898,057.71	2,826,825.31	71,232.40
	Total withheld incL. VAT:	*21,010,918.40*	*20,494,483.51*	*516,434.89*
3.0	RETENTION RELEASED			
	Amount released:	-	-	-
	VAT (0.16%)	-	-	-
	Total released incL. VAT:	-	-	-
4.0	ADVANCE PAYMENT			
	Amount recovered:	29,871,336.49	29,137,090.92	734,245.56
	VAT (0.16%)	4,779,413.84	4,661,934.55	117,479.29
	Total recovered incL. VAT:	*34,650,750.32*	*33,799,025.47*	*851,724.85*
	Balance due to Client:	- 34,650,750.32	- 33,799,025.47	
5.0	PENALTIES			
5.1	Liquidated Damages:	-	-	-
5.2	Interest on Late Payments:	1,442,983.94	1,442,983.94	-

Contractor's Bank Details:	
Bank:	
Branch:	
Acc. Name:	
Acc. No.:	
Swift Code:	
Branch Code:	

Item	PAYMENT SUMMARY THIS CERTIFICATE	Amount (ZMW)
1.0	Value of works & materials certified, VAT incl.:	5,164,348.93
2.0	Less amount retained, VAT incl.:	516,434.89
3.0	Add retention released, VAT incl.:	-
4.0	Less advance recovered, VAT incl.:	851,724.85
5.1	Less liquidated damages:	-
5.2	Add interest on delayed payments:	-
	ZMW	3,796,189.19
	Net Amount Payable this Certificate, VAT Inclusive: ZMW	3,796,189.19

CERTIFICATION

Submitted by: *Contractor* Date:	Checked by: *RDA Project Engineer- HQ* Date:
Certified by: *Supervising Engineer / Consultant* Date:	Checked by: - *Senior Manager - Maintenance* Date:

Verified by: *RDA Regional Manager* Date:	Aprroved By: *Director Maintenance* Date:

VO.3301 Variation Order

Road Development Agency  Date:			
Engineer: Name of Engineer	Contractor: Name of Contractor	Project Name: Name of Project	Works Contract No.: Number
VARIATION ORDER			No:

1. In accordance with Clause [xxx] [insert clause] and [xxx] [insert clause] of the Conditions of Contract you are hereby instructed to perform the following Work:

2. The Work shall be performed in accordance with the appropriate sections of the Specification.
   - ☐ Without modification
   - ☐ As modified by the attached Special Specifications

3. TOTAL DIFFERENCE
   a. Original Contract Amount: _____
   b. Revised Contract Amount before this Variation: _____
   c. New Contract Amount: _____

4. This Variation Order will have
   - ☐ No effect on the time allowed for the performance of the Contract.
   - ☐ The Contract Time will be increased by _____ calendar days.

5. Reason for Variation Order:

6. Estimate of Cost: Refer to the details on the next page.

Signed: _____ Date:

Engineer's Representative

We, the undersigned Contractor, have given careful consideration to the change and hereby agree, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the Work above specified, and will accept as full payment therefore the prices shown above.

Accepted: _____ Date:

Contractor

cc – the Employer

Road Development Agency						VO.3301a Date:……
A: Estimate of increase/decrease in B/Q Items at Contract Prices:						
Item No.	Description	Original Quantity	Revised Quantity	+ or -	Unit Rate	Difference + or – Amount
B: Estimate of increase for new items or extra work at agreed prices:						
Item No.	Description	Unit	Estimated Quantity		Agreed Unit Rate	Estimated Cost Amount

BoQ.3401 Standard Bill of Quantities

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No: *Number*

STANDARD BILL BOQ FOR RDA NO: ...

SUMMARY OF BILL OF QUANTITIES

Bill No.	Description	Total Bill
		Amount in ZMK
1	General Provisions	0
2	Drainage	0
3	Earthworks and Pavement Layers or Gravel or Crushed Stone	0
4	Asphalt Pavements and Seals	0
5	Ancillary Roadworks	0
6	Structures	0
7	Testing and Quality Control	0
	Total of Bill nos 1 to 7 (in Zambian Kwacha)	0
	Total of Bill of Quantities to Carried to Summary of Bill of Quantities and Daywork Schedules	

IC.3501 Interest Claim

Road Development Agency

Date…

Consultant:	Contractor:	Project Name:	Works Contract No.
Name of Engineer:	Name of Contractor:	Name of Project:	Number:

CALCULATIONS FOR INTEREST CLAIM ON LATE PAYMENTS

IPC No.	Certificate Amount	Amout Paid	Date Certified/Submitted	Due Date	Date Paid	Days		Interest Rate(Per Year)		Interest Amount(ZMK)
						Up to 11-30-2009	From 1-12-2009	Up to 30-11-200	From 1-12-2009	
1	4,960,689,808.48	4,960,689,808.48	13-3-2009	10-4-2009	14-5-2009	31	–	24%	21%	
2	944,955,720.00	944,955,720.00	14-4-2009	12-5-2009	14-5-2009	2	–	24%	21%	
3	1,369,359,213.26	1,369,359,213.26	22-5-2009	19-6-2009	3-7-2009	11	–	24%	21%	
4	7,200,298,704.96	7,200,298,704.96	16-6-2009	14-7-2009	13-8-2009	31	–	24%	21%	
5	2,523,099,972.74	2,523,099,972.74	15-7-2009	12-8-2009	3-9-2009	22	–	24%	21%	
6	511,193,931,631.00	1,000,000,000.00	28-10-2009	12-8-2009	11-1-2010	110	41	24%	21%	
		3,000,000,000.00	28-10-2010	12-8-2009	16-2-2010	110	77	24%	21%	
		1,111,939,316.31	28-10-2011	12-8-2009	19-3-2010	110	108	24%	21%	
7	1,181,668,268.12	3,888,060,684.69	28-10-2012	12-9-2009	19-3-2011	79	108	24%	21%	
		5,000,000,000.00	28-10-2013	12-9-2009	8-4-2010	79	128	24%	21%	
		2,928,607,583.43	28-10-2014	12-9-2009	16-4-2010	79	136	24%	21%	
8	9,060,196,723.49	3,000,000,000.00	28-10-2015	13-10-2009	6-5-2010	48	156	24%	21%	
		5,000,000,000.00	28-10-2016	13-10-2009	28-5-2010	48	178	24%	21%	
		1,060,196,723.49	28-10-2017	13-10-2009	28-6-2010	48	209	24%	21%	
9	2,492,479,438.13	2,492,479,438.13	28-10-2018	27-10-2009	6-5-2010	34	156	24%	21%	
Total										

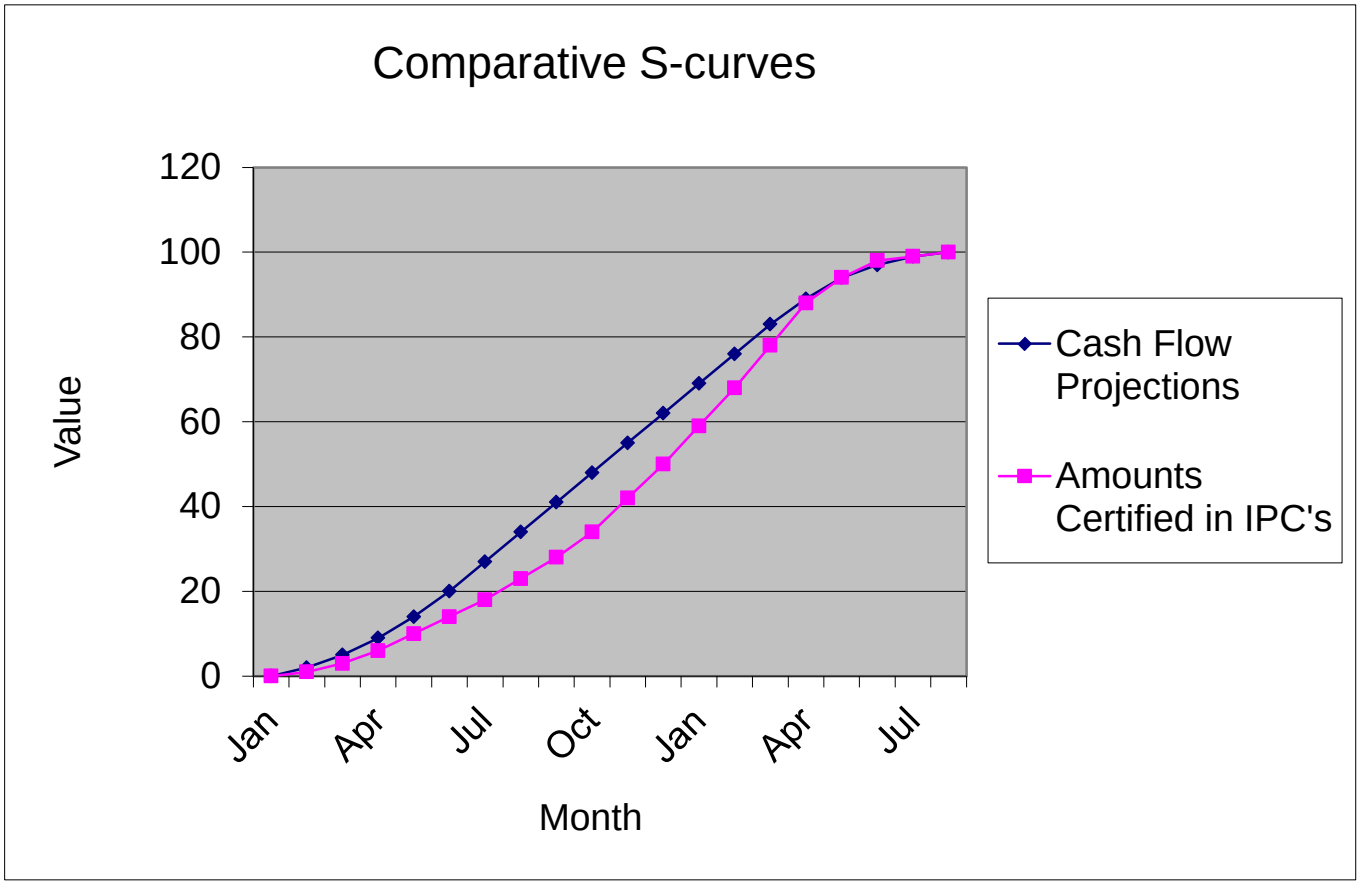
FF.3601 Financial Forecast

Road Development Agency		Date:	
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No: *Number*

Formats for Presenting Financial Forecast

Financial Progress
Comparative S-curve

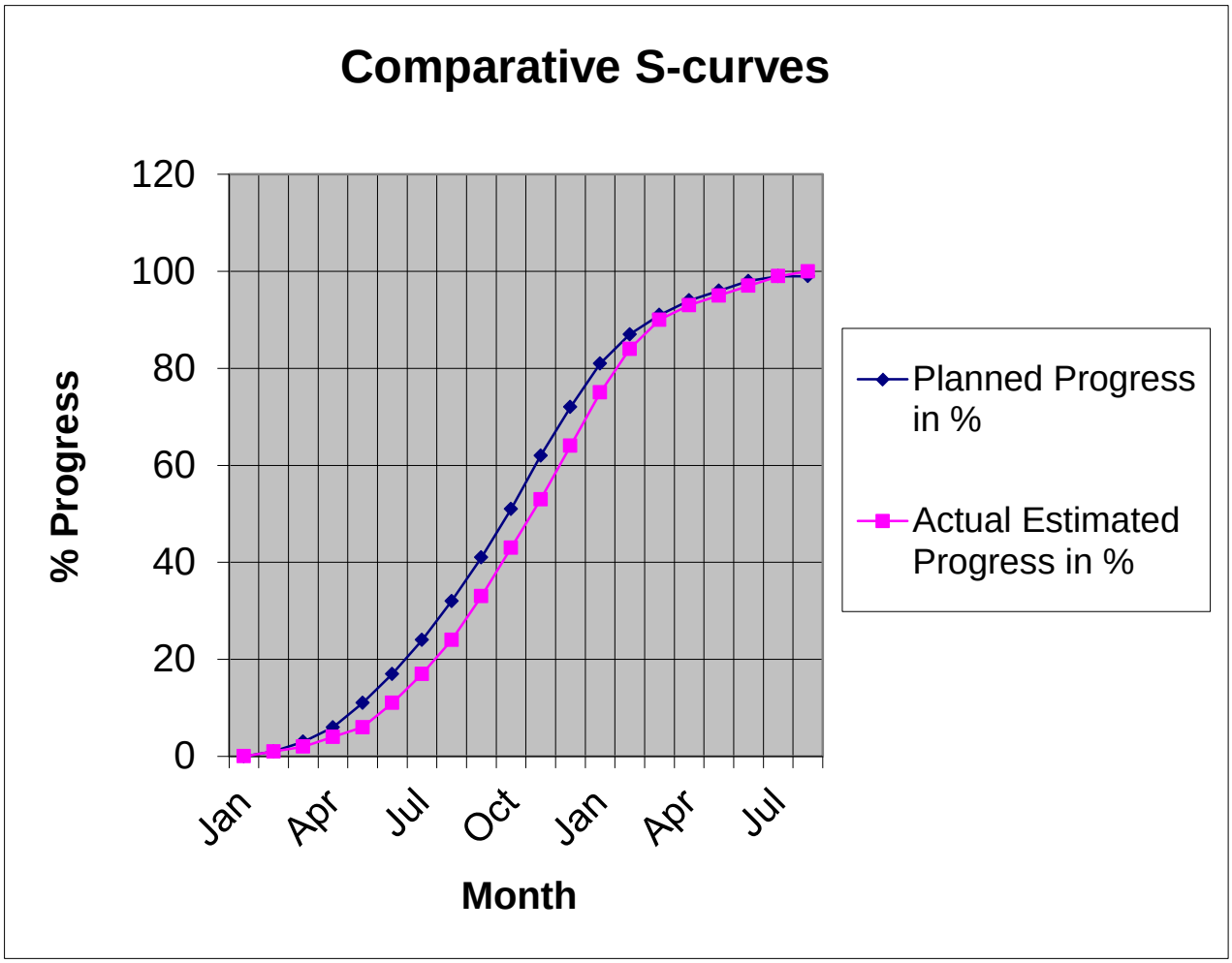
	Cumulative		Monthly	
Month	Cash Flow Projections	Amounts Certified in IPC's	Cash Flow Projections	Amounts Certified in IPC's
Jan	0	0	0	0
Feb	2	1	2	1
Mar	5	3	3	2
Apr	9	6	4	3
May	14	10	5	4
Jun	20	14	6	4
Jul	27	18	7	4
Aug	34	23	7	5
Sep	41	28	7	5
Oct	48	34	7	6
Nov	55	42	7	8
Dec	62	50	7	8
Jan	69	59	7	9
Feb	76	68	7	9
Mar	83	78	7	10
Apr	89	88	6	10
May	94	94	5	6
Jun	97	98	3	4
Jul	99	99	2	1
Aug	100	100	1	1
Total			100	100


Comparative S-curves
120
100
80
60
40
20
0
Value
Jan
Apr
Jul
Oct
Jan
Apr
Jul
Month
Cash Flow Projections
Amounts Certified in IPC's

PP.3602 physical progress

Physical Progress
Comparative S-curve

	Cumulative		Monthly	
Month	Planned Progress in %	Actual Estimated Progress in %	Planned Progress in %	Actual Estimated Progress in %
Jan	0	0	0	0
Feb	1	1	1	1
Mar	3	2	2	1
Apr	6	4	3	2
May	11	6	5	2
Jun	17	11	6	5
Jul	24	17	7	6
Aug	32	24	8	7
Sep	41	33	9	9
Oct	51	43	10	10
Nov	62	53	11	10
Dec	72	64	10	11
Jan	81	75	9	11
Feb	87	84	6	9
Mar	91	90	4	6
Apr	94	93	3	3
May	96	95	2	2
Jun	98	97	2	2
Jul	99	99	1	2
Aug	99	100	1	1
Total			100	100


Comparative S-curves
% Progress
120
100
80
60
40
20
0
Jan
Apr
Jul
Oct
Jan
Apr
Jul
Month
Planned Progress in %
Actual Estimated Progress in %

APPENDIX D.: PROJECT QUALITY MANAGEMENT DOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
QAP 4101	Quality Assurance Plan
CL. 4201	Checklist
CL. 4202	Inspection Request Template
CL. 4203	Layer Work Testing Template
CL. 4204	Level Dip Check Sheet Template
CL. 4205	Pre-Concreting Template
CL. 4206	Sealwork Design Form Template
CL. 4207	Sealwork Records Template
CL. 4208	Asphalt Paving Records Template
CL. 4209	Asphalt Test Results – Acceptance Form
MDD.4401	Maximum Dry Density
TAC.4402	Test Acceptance Criteria

QAP 4101 Quality Assurance Plan

Road Development Agency 			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No.: *Number*
QAULITY ASSURACE PLAN			No:
We, the undersigned Consultant, have carefully reviewed the Quality Assurance Plan Document Submitted by the Contractor and it conforms to RDA Standard Quality Control Guideline Manual. Accepted: _____ Date: Consultant			

Table of Contents

INTRODUCTION

Quality assurance (QA) is a system or program used to monitor and evaluate the aspects of a project, service or facility to determine if quality standards are being met. To ensure a QA system is operating properly, periodic QA audit checklists are created and reviewed. QA checklists are marked beneficial or determine if room for improvement is needed.

Quality assurance is important in the engineering and construction industry because of the risk involved in any project. The risk involved in not completing the project on time is high, because many external factors will affect the performance of the project. It is vital that a built-in quality assurance system is developed to avoid any inefficiency that could result in poor quality of products and service being delivered to the Client (Roads Development Agency).

A quality control and quality assurance plan helps you and your project management team to meet the needs of your customers. Your quality control plan will detail the internal processes you will need to implement to stay on track with meeting quality objectives, while the quality assurance plan outlines all external processes required to make your quality control plan work. The result is a quality management plan that provides a comprehensive approach.

Construction contractors can utilize quality assurance in many ways, including:

- ✓ Standardizing best practices to maximize productivity.
- ✓ "Systematizing" work methods to ensure that the job is "done right the first time".
- ✓ Managing quality to assure quality and to keep defects from customers.
- ✓ To reduce the cost of quality to increase profits.
- ✓ To protect the business from liability risk.
- ✓ To become a smarter company.

The Quality Assurance Plan shall include but not necessarily be limited to the following chapters. Comments are added to each heading to ensure a proper understanding of matters to be covered under each heading.

1.0 Scope of Works

Briefly describe the scope of the works on the project for which the Quality Assurance Plan is specifically prepared for.

2.0 Quality Policy

The consultant/Contractor shall define and document its policy and objectives for, and commitment to, quality and shall ensure that these are understood, implemented and maintained by all personnel employed on the contract.

This clause requires you to document and communicate your policy and commitment in writing. All employees must be made aware of the policy, its meaning and importance and their role in implementing it.

2.1 Management

Write the names and positions of the key personnel on the project including their qualifications and experience. The responsibilities assigned to each of the individual with regard to process control of works should also be stated. Assign all responsibilities and the roles internal staff will play for the quality plan. When you assign roles and responsibilities, you should also assign ownership of all activities within those roles, whether internal or external. All project members must assume ownership of their roles, successes and failures to assure quality objectives. Create roles and actions plans that clearly define and will assist in meeting your quality objectives.

2.1.1 Responsible person for material testing

The Contractor shall retain a qualified person to be responsible for quality control and quality assurance of the completed Work (the "QA/QC Engineer or Technician"), subject to the approval of the Consultant. The QA/QC Engineer shall be responsible, among other things, for developing procedures for testing materials, the oversight of materials testing, inspecting field assembled equipment (such as quality control of DCP), the quality control of materials used in the manufacture of major equipment and verifying that all equipment and materials delivered to the Site meet the specifications of Engineer. The QA/QC Engineer shall report to Project Manager/Contracts Manager, Contractor and the Owner on a biweekly basis, or more frequently as needed.

2.2 Document Control

Describe the system to be used to control documents

2.2.1 Identification of Quality Assurance Plan Documents

Assign codes to every document related to the Quality Assurance Plan for easy identification. This includes laboratory test and checklists.

2.2.2 Reviewing and approval of the document

Mention the person who will review the Quality Assurance Plan document before it is submitted to the supervising Consultant/Engineer. Outline all review processes for the quality assurance aspect of the quality management plan. Articulate when the reviews will occur, who is responsible for the reviews, and what data requires extrapolation to assure progress to reach quality objectives. The quality assurance plan does not end with the implementation and success of the project. It will extend beyond the project indefinitely to assure you are consistently meeting your customers' needs.

2.3 Quality Control Tests

2.3.1 Laboratory

State the laboratory where the relevant quality control tests will be done. It may be a site/offsite laboratory. Further describe the laboratory equipment that will be available on site.

Please note that all formats related to tests done at external laboratories should be submitted to the Engineer before commencement of works.

2.3.1 (a) Soil

Describe all the tests that will be carried on the gravel to be used for road works. The standards to be followed for each particular test should also be stated. The tests should include the following:

i. *Sieve analysis for soil*
ii. *Atterberg Limit test for soil*
iii. *The field moisture*
iv. *Field density*
v. *Proctor densities (standard and modified)*
vi. *CBR tests*

2.3.1 (b) Aggregate

Present details of the tests including the standards/specifications that will be carried out. The test should include the following:

i. *Sieve analysis for aggregates*
ii. *Proctor densities*
iii. *Field moisture*
iv. *Field density*
v. *Flakiness Index*
vi. *CBR tests*
vii. *Testing of concrete cubes*
viii. *The 10% fines value test*
ix. *The Los Angeles Abrasion Value*
x. *The specific gravity of coarse aggregate*
xi. *The specific gravity of fine aggregate*
xii. *The soundness of aggregates*
xiii. *Aggregate Impact Value*

2.3.1 (c) Bitumen

Mention the laboratory that will carry out acceptance tests on penetration Grade Bitumen and Cut Back Bitumen

2.3.1.1 Penetration Grade Bitumen

Describe all the relevant tests and standards to be carried out on the penetration grade bitumen. The tests should include the following:

i. *Penetration*
ii. *Softening point*
iii. *Loss on heat*
iv. *Flash Point*
v. *Solubility*

2.3.1.2 Cut Back Bitumen

Describe all the relevant tests and standards to be carried out on the Cut Back bitumen. The tests should include the following:

i. *Viscosity*
ii. *Distillation*
iii. *Water Percentage*
iv. *Ductility for residue*
v. *Flash Point*

2.4 Inspection, Measuring and Test Equipment

This procedure applies to the inspection, Measuring and test equipment on the site.

2.4.1 Control of Equipment

Describe the person who will be ensuring that the "master list of Inspection/Measuring/Test equipment is generated for review. Provide an overview of how he/she shall review the master list for any equipment due for calibration, calibration report and ensure that calibration label is intact on the equipment. State the time frame for reviews.

2.4.2 Control Elements

Explain how each of the following elements will be constantly checked to ensure credible test results.

i. *Standards Tractability*
ii. *Identification of Equipment*
iii. *Equipment Calibration Schedule*
iv. *Calibration Reports/Certificates*
v. *Equipment care*

vi. *Measuring accuracy and precision*

2.4.2 Action to be taken when calibration results are unsatisfactory

Briefly describe how the Quality Control Engineer will investigate any reported fault equipment and its subsequent disposal. Have errors been detected and what corrective action has been taken.

2.5 Purchase of Material, Services and Products

Provide details of all major materials that will be purchased for the project and the sources. Further indicate measures put in place to ensure that the materials are properly stored and delivery notes are also kept. Include also the interval of obtaining manufacturing reports from the manufacturer.

How you engaged the sub-contractors and what measures will you put in place to ensure that he adheres to the quality assurance plan of the company so that the works are of high quality.

2.6 Quality Control Frequencies for Materials

Present the tests to be carried out on any material used on site in accordance with the specifications and its frequency in tabular form. See the example shown in the Table below:

Material	Test	Frequency
Soil Sub base	✓ CBR ✓ Liquid Limit ✓ Plastic Limit ✓ Standard compaction ✓ Sieve analysis	Each soil type will be tested at least once and thereafter as required
Bitumen	Acceptance testing	One test for 2000 litres

2.7 Quality Control Frequencies during construction

Present the construction activities and frequency in tabular form. See the example in the Table below:

Construction	Activity	Frequency
Sub Base filling	✓ Layer thickness of gravel ✓ Field moisture content ✓ Degree of compaction of the compacted layer	For each layer One test per 250 sqm One test per 500 sqm
Priming	✓ Rate of application	For every run

	✓ Temperature Control	Just before for every run

2.8 Construction Control

Briefly describe the details of each construction activity and how it shall be recorded before the activity is commenced. This includes:

2.8.1 Methods to monitor and control quality

2.8.2 Acceptability criteria for workmanship

2.8.3 Use of qualified processes, equipment and personnel

2.8.4 The daily programme for the next day should be forwarded to the Engineer each workday.

2.8.5 'Hold Point' where the approval of the Engineer is specifically required under the specifications prior to proceeding to the next stage.

2.8.6 'Witness Point' where the Engineer is required to be present to observe the progress of an activity under the specification.

2.8.7 Daily Dairy should also be completed for each days of works to record activities in progress and the labour, plant and materials used.

2.9 Inspection Checklist and Testing

Describe how inspection and testing of completed works will be carried out. List the features of the work that require inspection and/or test to ensure compliance with the specification requirements. Shall include quantifiable acceptance criteria based on specification requirements wherever possible and provision for recording inspection and test results. Further attach inspection and test forms for each construction activity.

2.10 Control of Non-Conformance

Has non-conformance works/materials been identified. Describe how all non-conformance works/materials in an activity will be identified and recorded. How will defective works be reported to the Engineer?

2.11 CAPA (corrective action and preventative action):

Describe what corrective action will be taken for non-conformance works to prevent defects from reoccurring. Further explain who will be responsible of handling the corrective and preventive action of non-conformance works/materials.

2.12 Audit

Describe what system has been put in place to ensure that the Engineer can readily audit the Contractor's staff and access the laboratory equipment and facilities for audit purposes. Are quality assurance reports timely submitted to the Engineer?

2.13 Method for Reviewing Technician's Competency

Describe how the competency of the materials technician will be evaluated to ensure that he/she has the capacity to carry out all the relevant tests on the project according to the standards and specifications.

2.14 Management Review

Has the management reviewed the quality system data (performance) (quality metrics) to determine if the quality system is working and if it is not, taking the appropriate action to improve the system.

2.14 Tolerances in Construction Activities

Describe the allowed tolerances in all the major construction activities that will be followed by the contractor's personnel on site. Sometime Contract and SATCC document can be referred

CL. 4201 Checklists

CL. 4202 Inspection Request Template

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*INSPECTION REQUEST*	Project Name: *Name of Project*	Works Contract No.: *Number*
			TR No.
CONSULTANT:		CONTRACTOR:	
SITE:		FROM:	TO:

ROAD:	_____	CARRIAGEWAY:	_____
LANE:	_____	LAYER/STRUCTURE:	_____
PEG DISTANCE:	_____	TESTS REQUIRED:	_____
DATE REQUESTED:	_____	DATE SAMPLED:	_____
DATE TESTED:	_____	DATE RESULTS RECEIVED:	_____
RESULTS ANALYSED ON ROAD		LAYERWORK TESTING BY :	

NAME :	
SIGNATURE :	
DATE :	

TESTS REQUIRED

TEST DESCRIPTION	*No OF TESTS*	*PEG DISTANCE / OFFSET*

CL. 4203 Layer Work Testing Template

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*LAYER WORK TESTING*	Project Name: *Name of Project*	Works Contract No.: *Number*

CONSULTANT:		CONTRACTOR:		
SECTION				
LAYER				
LOCATION	FROM km:	TO km:		
STABILISING AGENTS & %				
DATE TESTING REQUESTED:		TEST REQUEST FORM TR No:		
INSPECTED BY: DATE:		LABORATORY REF No:		
LEVELLED BY: DATE:		DATE OF TESTING:		
LEVEL SPEC. CHECKED BY:	DATE RESULTS RECEIVED:			
		0-150	150-300	300-450
REMARKS	SPECIFIED DENSITY (La) : ACTUAL AVE. DENSITY (Xn) :			
	SPECIFIED CBR/UCS : ACTUAL CBR/UCS :			
NOTE: THIS FORM TO BE RETURNED TO THE RE WITH THE TEST RESULTS				
PERMISSION TO PROCEED WITH NEXT LAYER:				

ACTION REQUIRED BY CONTRACTOR:	
CONTRACTOR:	DATE:
RESIDENT ENGINEER:	DATE:

CL. 4204 Level Dip Check Sheet Template

Road Development Agency			**Date:**
ROAD SITE PROJECT CHECK LIST	*LEVEL DIP CHECK SHEET*	**Project Name:** *Name of Project*	**Works Contract No.:** *Number*

CONSULTANT:	CONTRACTOR:
Weather:	Measured by:
Layer: Subbase ☐ Base ☐	Street:
Failed: Date:	Approved: Date:
RE's Comments:	

S.V.	LHS			C/L			RHS		
	Level 1	Level 2	Comment	Level 1	Level 2	Comments	Level 1	Level 2	Comments

CONTRACTOR:					DATE:				
RESIDENT ENGINEER:					DATE:				

CL. 4205 Pre-Concreting Template

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*PRE-CONCRETING (culverts and drains)*	Project Name: *Name of Project*	Works Contract No.: *Number*

CONSULTANT:	CONTRACTOR:
TYPE OF STRUCTURE/ELEMENT:	LOCATION:
CONCRETE CLASS	APPROXIMATE VOLUME
TIME OF CHECK	CONCRETE START TIME

OPERATION		ACCEPT		N/A	REMARKS
		YES	NO		
EXCAVATION	LEVEL				
	WIDTH				
	BLINDING				
FORMWORK	SETTING OUT				
	LINE AND LEVEL				
	CAST-INS LOCATION				
	FORMS OILED				
	BOX CLEAN				
REINFORCEMENT	CORRECT SIZE				
	CORRECT SPACING				
	CORRECT COVER				

CONTRACTOR:	DATE:
RESIDENT ENGINEER:	DATE:

CL. 4206 Sealwork Design Form Template

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*SEALWORK DESIGN FORM:*	Project Name: *Name of Project*	Works Contract No.: *Number*

CONTRACT …… TRH 3 (2007) method

SEAL DESIGN CALCULATIONS FOR .....mm/.....mm DOUBLE SEAL or .....mm SINGLE SEAL

Ensure that you fully understand TRH 3 (2007 version) before starting the design process.

EXISTING SURFACE CONDITION	LANE 1	LANE 2
EQUIVALENT LIGHT TRAFFIC (per direction) (I heavy vehicle = 40 ELV's)		
CORRECTED BALL PENETRATION VALUE (mm) (see Fig. 3-1 on pg.27)		
NEW SEAL TEXTURE DEPTH REQD. (0.7/1.0 mm for low / high traffic speeds)		
ALD OF …… mm AGGREGATE (mm)		
ALD OF ..... mm AGGREGATE (mm)		
COMBINED ALD OF BOTH AGGREGATES (mm)		
NET COLD BINDER (litres/m2) (from appropriate design chart)		
ADJUSTMENT FOR SURFACE TEXTURE DEPTH (l/m²) (see pg.86)		
ADJUSTMENT FOR CLIMATE (l/m²) (see pg.86)		
ADJUSTMENT FOR STEEP GRADES (l/m²) (see pg.86)		
ADJUSTMENT FACTOR IF USING MODIFIED BINDER (see pg.89-92)		
TOTAL NET COLD BINDER (l/m²)		
TOTAL HOT BINDER (l/m²) (see Table 7-3 on pg.84 for cold to hot conversion rate)		
ENGINEER's RECOMMENDATION (l/m² - hot)		
TACK COAT FOR FIRST LAYER OF AGGREGATE (l/m² - hot) (See note top pg.85)		
PEN. SPRAY FOR SECOND LAYER OF AGGREGATE (l/m² - hot)		
FOG SPRAY (if required) (l/m² of 30% emulsion)		
AGGREGATE APPLICATION RATE (m²/m³) FOR 1ST / 2ND AGG. LAYER (pg.85)	/	/

Note: Base layer to be inspected for soundness, density, correct levels, riding quality and cleanliness before being primed according to the specifications – and the guidelines given in SABITA Manual 26 – Interim guidelines for primes. No sealwork to be done until prime has penetrated the base and the surface has been swept clean.

DESIGNERS NAME :	
SIGNATURE :	DATE :

CL. 4207 Sealwork Records Template

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*SEALWORK RECORDS:*	Project Name: *Name of Project*	Works Contract No.: *Number*

Consultant:	Route / Street:	Date Base Primed:
Contractor:	Section: From km: to km:	Date Seal Placed:
Sub-contractor:	Lane/s:	Distributor Cert. No:
Aggregate Type/Size/Source:		
Binder Type/Grade/Source:		

Recommended Binder Spray and Aggregate Spread Rates

Seal Design Checked: Yes / No		Date:
Binder Application: Single Spray/First Spray	Second Spray	Final Spray
Aggregate Application: Single or First Layer	Second Layer	

Control Data

Spray (Prime / Tack / 1st / 2nd / Final)								
Lane:								
Surface Area Covered m²	a	Start (SV)						
	b	End (SV)						
	c	Length = | a – b |						
	d	Width						
	e	Area = c (d)						
Binder Rate ℓ/m²	f	Dipstick Before						
	g	Dipstick After						
	h	Volume = g – h						
	i	Rate = h/e						
Aggregate Rate m²/m³		First/Second Layer *						
	i	Volume						
	j	Rate = e/j						

Control Data

Spray (Prime / Tack / 1st / 2nd / Final)								
Lane:								
Surface Area Covered m²	a	Start (SV)						
	b	End (SV)						
	c	Length = | a – b |						
	d	Width						
	e	Area = c (d)						
Binder Rate ℓ/m²	f	Dipstick Before						
	g	Dipstick After						
	h	Volume = g – h						
	i	Rate = h/e						
Aggregate		First/Second Layer *						

Rate m^2/m^3	i	Volume						
	j	Rate = e/j						
CHECKED								
SIGNATURE:			DATE :					

CL. 4208 Asphalt Paving Records Template

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*ASPHALT PAVING RECORDS*	Project Name: *Name of Project*	Works Contract No.: *Number*

Consultant :			Contractor:			Lot No:		
Route/Street:			Paving Contractor:			Date placed:		
From km:	to km:		Asphalt Supplier:			Asphalt type:		
Truck No								
Truck load (tonne)								
Cumulative tonnage								
Arrived on site (time)								
Load temp in truck								
Carriageway								
Lane								
Placing Time	Start							
	End							
Placing Section	Start							
	End							
Temperature	Truck							
	Hopper							
	Layer							
Sample No								
Road Temperature								
Air temperature								
Wind								
Weather								
Truck No								
Truck load (tonne)								
Cumulative tonnage								
Arrived on site (time)								
Load temp in truck								
Carriageway								
Lane								
Placing Time	Start							
	End							
Placing Section	Start							
	End							
Temperature	Truck							
	Hopper							
	Layer							
Sample No								
Road Temperature								
Air temperature								

Wind							
Weather							
Checked by:							
Signature:			Date:				

CL. 4209 Asphalt Test Results – Acceptance Form

Road Development Agency			Date:
ROAD SITE PROJECT CHECK LIST	*ASPHALT TEST RESULTS – ACCEPTANCE FORM*	Project Name: *Name of Project*	Works Contract No.: *Number*

Consultant.:	Route/Street:	Total Tonnage:	Lot No.:
Contractor:	Lane/s:		Date Placed:
Asphalt Supplier/Plant:	Width:		Date Sampled:
Aggregate/Binder Type:	From km: to km:		Date Cored:

Layer Property					Comp. %	13.2	9.5	4.75	2.36	0.300	0.075	Binder % * | B-R*	VIM %
Tolerance						5	5	4	4	3	2.0	±0.3 |±0.4	1.5
Target Value													
Specification Limit			Ls(lower)			-5	-5	-4	-4	-3	-2.0	-0.3	-1.5
			Ls(upper)			5	5	4	4	3	2.0	0.3	1.5
Date	SV	Ton	Sample No.	N	Test Value(Xn)								
				1									
				2									
				3									
				4									
				5									
				6									
				7									
				8									
				9									
				10									
Mean				M									
Standard Deviation				S									
Outlier Value				Xn									
| Xn – M | =				Co									
Critical Value (See Appendix C)				C									
Outlier: YES(Co > C) / NO(Co < C)													
Without Outlier	Mean			M									
	Standard Deviation			S									
Q Values	Single Limits				15								
	Double Limits					20	20	10	10	10	10	15	15
See App. C for k-values			ka or kad										
d = double limits			kr or krd										
R = ka.S or kad.S													
La = Ls+ R													
La' = Ls' – R													
Q = kr.S or krd.S													
Lr = Ls + Q													
Lr' = Ls' – Q													
Decision (IN / UN / OUT)													
P = 0,67 + 0,3 (M-Lr)/(La – Lr)													
P' = 0.67 + 0,3(Lr' –M)/)Lr' – La')													

Within Specification (IN)	Uncertain (UN)	Outside Specification (OUT)
La< M< La'	Lr<M<La or La' <M<Lr'	M <Lr or M> Lr'

Total Reduced Payment Factor : Pt = Sum Pi – (N-1) = % Payment = 100(Pt) = %

where N = Number of properties on which reduced sum is applicable =

and Sum Pi = Sum of P and/or P' =

* Cross out whichever option is not applicable or delete if not applicable		
Remarks:	Approved by: Date:	Sheet ... of ...

MDD.4401 Maximum Dry Density Template

Road Development Agency

Date

Engineer:	Contractor	Project Name:	Works Contract No.
Name of Engineer	*Name of Contractor*	*Name of Project*	*Number*

MOISTURE / DENSITY RELATIONSHIP

TEST METHOD : TMH 1 - A7

Request / Lab No. : _____ Date : _____

Location - km : _____ Depth: _____

Material Description _____ Borrow Pit No. : _____

Operator

STABILIZED ☐

NEAT

BATCH SIZE g : 7000

Stab.Agent & % Added : OPC (Cem Moz.)

MDD : kg/m3

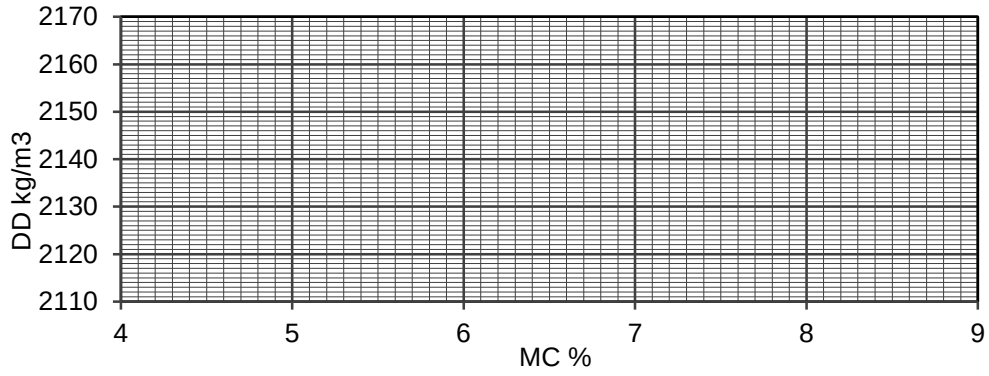
OMC : %

COMPACTION METHOD : MACHINE ☐ HAND X

COMPACTION	Drum No.	w	h	g	j		
	Percentage water added	140	141	142	143		
	Millilitres	9800	9870	9940	10010	0	
	Gram per layer used					0	
	Mould No.					0	
	Mass of mould + wet soil g	9687				10181	
	Mass of mould g					4956	
	Mass of wet soil g	9687				5225	
	Mould factor					0.0000	
	Wet density kg/m³					0	
	Aprox. Dry density kg/m³	#VALUE!	#VALUE!	#VALUE!	#VALUE!		
	Dry Density kg/m³		**#VALUE!**	**#VALUE!**	**#VALUE!**	0	*Hygroscopic Moisture Content*
MOISTURE CONTENT	Container No. L B					32	
	Mass of container + wet soil g					896.4	
	Mass of container + dry soil					809.7	
	Mass of container g					223.8	

Mass of moisture g					86.7	
Mass of dry soil g					585.9	
Moisture Content %					14.8	
Hygroscopic Moisture Content %						

MOISTURE - DENSITY RELATIONSHIP CURVE



140

Checked by _____ Date _____

TAC.4402 Test Acceptance Criteria

Road Development Agency Date……

CONCRETE ACCEPTANCE REPORT

Engineer:	Contractor	Works Contract No.
Name of Engineer	*Name of Contractor*	*Number*

Casting Date:08.01.15…… *Crushing Date:.05.02.15* *Curing Period (Age):…28 days.*

Concrete Grade……30Mpa *Slump:……100mm……..*

Location:…… *Structure:Wing walls C723 Km. 551+922……..* *Batch No……wwc25115……..*

						Test Results		
Cube No.	Weight (g)	Volume (cm^3)	Density (g/cm^3)	Max Load (kN)	Comprehensive Strength (N/mm^2)	Mean 28 days Characteristic Strength (N/mm^2)		
1	8.441	3375	2501	950	42.2	42.3		
2	8.470	3375	2510	991.4	44.1			
3	8.399	3375	2489	912.8	40.6			
4	8.633	3375	2558	1038.2	46.1	46.4		
5	8.474	3375	2511	1054.6	46.9			
6	8.414	3375	2493	1038.2	46.1			
7	8.274	3375	2452	1200.2	53.3	51.1		
8	8.449	3375	2503	1098.8	48.8			
9	8.221	3375	2436	1152.2	51.2			
10	8.280	3375	2453	900.8	40.0	42.1		
11	8.245	3375	2443	954.2	42.4			
12	8.452	3375	2504	983.4	43.7			
13	8.420	3375	2495	1029.4	45.8	45.4		
14	8.443	3375	2502	1038.4	46.2			
15	8.514	3375	2523	997.6	44.3			
16	8.377	3375	2482	1176	52.3	53.2		
17	8.377	3375	2482	1221	54.3			
18	8.465	3375	2508	1192.8	53.0			
MEAN			$\ddot{X}_n$		46.7			
STANDARD DEVIATION			S_n		4.48			
SPECIFICATION LIMIT			L_s		30.00			

Result-Differing most from mean		X_o		40.04			
To=((Xo-Xn)/Sn)		T_o		1.50			
T-Satcc Table 7204/1		T		1.67			
Outliers for Xo		X_o		Not outlier			
T-Satcc Table 7205/1 (Acceptance Limit-Mean)		L_a		98.40			
T-Satcc Table 7205/1 (Acceptence Limit-Single Value)		L_e		94.20			
Decision for Rejection & Acceptence (if sample mean is equal to or greater than acceptence limit acccept otherwise reject)				REJECTED			

APPENDIX E.: PROJECT CONTRACT ADMINISTRATION DOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
5101	Order to Commence
5102	Appointment of Engineer
5103	Possession of Site
5104	Request for Approval
5105	Approval for Sub-Contracting
5106	Engineer's Instruction
5107	Inspection Request
5108	Variation Order
5109	Instruction to Conduct Daywork
5110	Engineer's Decision
5111	Access to site
5112	SR's Duties and Authority
5201	Measurement Sheet
5202	Day work Summary Sheet
5203	Day work Cost Summary Sheet
5204	Measurement Sheet for Variation Orders
5205	Materials on Site
5206	Plant on Site
5207	Repayment of Advance
5208	Liquidated Damages
5209	Measurement Sheet for Claims
5210	Monthly Calculation of Escalation of Prices
5211	Calculation of Total Escalation of Prices
5301	Minutes of Meeting
5302	Daily Log Sheet
5303	Monthly Progress Report

5101 Order to Commence

Road Development Agency			Date:
Supervisor's Representative: Name of SR	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*

COMMENCEMENT ORDER

To: *Name and address of Contractor*

In accordance with Clause [xxx] [insert clause] of General Conditions for Works Contracts you are herewith instructed to commence the Works on:

(date)

You are instructed to commence the Works as soon as is reasonably possible after the receipt by you of this Order to proceed with the Works with due expedition and without delay.

It is hereby also confirmed that the Period for Performance being *(number)* Calendar Days the Date for Provisional Acceptance shall be:

(date)

Signed: _____
Supervisor

Date:

Ratified: _____
Contracting Authority

Date:

(Supervisor's Representative's Logo)

5102 Appointment of Engineer

Road Development Agency			Date:
Engineer: Name of Engineer	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*

APPOINTMENT OF ENGINEER

To: *Name and address of Engineer*

In accordance with Clauses Clause [xxx] sub ([xxx]) ([xxx]) and Clause [xxx]. of the General Conditions Part I of the Conditions for Works of Civil Engineering Construction you are hereby appointed to act as the Engineer under the Terms of the Contract.

Name of Works Contract

In accordance with Clause [xxx] sub ([xxx]) you shall carry out the duties as specified in the Contract. Furthermore, in accordance with Clause [xxx]. sub ([xxx]) we hereby delegate to you the duties and authority vested in the Engineer, excepting the following as stated in [xxx] – Conditions of Particular Application:

- Certifying additional costs under Clause 12 (Unforeseen physical conditions);
- Suspending the Works under Clause 40;
- Issuing a Certificate of Completion under Clause 48 (Taking over Certificate);
- Certifying Variation Orders under Clause 51.1 (Variations) subject to the authority stated in the Special Stipulations, which permits the issue of Variation Orders by the Engineer up to a total accumulated value of *xx %* of the Contract Price (Appendix to Tender);
- Terminating the Contract under Clause 63.1;
- Certifying additional payment under Clause 65 (Special Risks).

Appropriate action on the above named Clauses shall only be executed by you upon due consultation with us, and our subsequent approval to act accordingly.

Signed: _____

Road Development Agency of the Ministry of Works and Supply

(Employer)

cc – Contractor *(Name of Contractor)*

(Supervisor's Representative's Logo)

5103 Possession of Site

Road Development Agency			Date:
Engineer: Name of Engineer	Contractor: *Name of Contractor*	Project Name: Name of Project	Works Contract No. *Number*
POSSESSION OF SITE			

To: *Name and address of the Contractor*

Pursuant to Clause [xxx] [insert clause] of the General Conditions of Contract, we, in the capacity of the Employer under the Contract, give to you, upon the Engineer's Order to Commence the Works, possession of the whole of the Site pertaining to the following Works and the necessary Access thereto:

Name of Works Contract

The date for Possession of Site and Access thereto shall be the date on which you are instructed to commence the Works.

Signed: _____

Road Development Agency

(Employer)

cc – the Engineer *(Name of Engineer)*

[Consultant's logo]

5104 Request for Approval

Road Development Agency			Date:
Engineer: Name of Engineer	Contractor: Name of Contractor	Project Name: Name of Project	Works Contract No. *Number*

REQUEST FOR APPROVAL

To: The Director of Roads

Road Development Agency

Fairly Road

P.O.Box 50003,

Lusaka

Dear Sir,

In accordance with Clause [xxx] [insert clause] of the Conditions of Particular Application the Engineer shall obtain the specific approval of the Employer before instructing the Contractor to conduct work or carry out instructions all as stipulated in the said Conditions.

In this respect we hereby duly request you, in accordance with the terms of the above Works Contract, to give your approval for us to proceed with the issue to the Contractor of the following document marked hereinafter.

- Engineer's Instruction in accordance with Clause [xxx] [insert clause]of the General Conditions of Contract, if involving a variation of costs;
- Certifying additional costs under Clause [xxx] [insert clause] (Unforeseen Conditions);
- Suspending the Works under Clause [xxx] [insert clause] (Suspension);
- Issuing a Certificate of Completion under Clause [xxx] [insert clause] (Taking Over Certificate);
- Certifying Variation Orders in accordance with Clause [xxx] [insert clause] (Variations);
- Issuing Instructions to perform Daywork in accordance with Clause [xxx] [insert clause] (Daywork);
- Terminating the Contract under Clause [xxx] [insert clause] (Default of the Contractor);

The relevant document requiring your due consideration and approval is attached hereby. Kindly will you, in case of your Approval, sign this Request for Approval, returning one copy to us.

Signed: _____ Engineer's Representative	Approved: _____ (Employer)

5105 Approval for Sub-Contracting

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*

APPROVAL FOR SUBCONTRACTING

To: *Name and address of Contractor*

Having received your written application vide your letter ref. ….., dt. …….., for our approval of Subcontracting part of the works, we hereby confirm to have duly considered the details of your submission. The relevant details of the proposed Company have included:

- Its financial status
- Number of personnel employed (by category)
- Experience record
- List of equipment and plant in possession by the Company

As a result and in accordance with Clause [xxx] [insert clause] of the General Conditions of Contract, we hereby approve the appointment as your Sub-Contractor named hereinafter:

(Name of Sub-Contractor)

to undertake the following part(s) of the Works:

(Describe the relevant sub-contracted works)

Please be reminded hereby that any such consent shall not relieve you from any liability or obligation under the Contract and you shall be responsible for the acts, defaults and neglects of the above Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of you yourself, your agents, servants or workmen.

Signed: _____
Engineer's Representative

cc – the Employer

5106 Engineer's Instruction

Road Development Agency			Date
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
ENGINEER'S INSTRUCTION			No:

7. In accordance with Clause [xxx] [insert clause] (Instructions in writing) of the General Conditions of Contract you are hereby instructed as follows:

8. Reason:

9. The Work shall be performed in accordance with the appropriate sections of the Specification of the Contract.

10. This Instruction will have no effect on the total Contract Cost.

11. This directive will have no effect on the time allowed for the performance of the Contract.

Instruction issued by: _____ Date:
Engineer's Representative

Received by: _____ Date:
Contractor's Project Manager

cc – the Employer

5107 Inspection Request

Road Development Agency  Date:			
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
INSPECTION REQUEST			
The following completed works are ready for the Engineer's Inspection. Test results are attached as appropriate. …… …… …… …… …… Signature of Contractor's Staff-member issuing this IR _____			
ENGINEER'S STAFF COMMENTS			
Surveyor: level results attached …… …… …… …… …… …… Signature/Date _____		Inspector: …… …… …… …… …… …… Signature/Date _____	
Materials: test results attached …… …… …… Signature/Date _____			
Deputy Resident Engineer: …… …… …… Signature/Date _____		Engineer's Representative: ☐ ACCEPTED ☐ REJECTED Signature/Date _____	

5108 Variation Order

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No.: *Number*
VARIATION ORDER			No:

1. In accordance with Clause [xxx] [insert clause] and [xxx] [insert clause] of the Conditions of Contract you are hereby instructed to perform the following Work:

2. The Work shall be performed in accordance with the appropriate sections of the Specification.
   - ☐ Without modification
   - ☐ As modified by the attached Special Specifications

3. TOTAL DIFFERENCE
   d. Original Contract Amount: _____
   e. Revised Contract Amount before this Variation: _____
   f. New Contract Amount: _____

4. This Variation Order will have
   - ☐ No effect on the time allowed for the performance of the Contract.
   - ☐ The Contract Time will be increased by _____ calendar days.

5. Reason for Variation Order:

6. Estimate of Cost: Refer to the details on the next page.

Date:

Signed: _____
Engineer's Representative

We, the undersigned Contractor, have given careful consideration to the change and hereby agree, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the Work above specified, and will accept as full payment therefore the prices shown above.

Accepted: _____ Date:
Contractor

cc – the Employer

Road Development agency

Date:

A: Estimate of increase/decrease in B/Q Items at Contract Prices:

Item No.	Description	Original Quantity	Revised Quantity	+ or -	Unit Rate	Difference + or – Amount

B: Estimate of increase for new items or extra work at agreed prices:

Item No.	Description	Unit	Estimated Quantity	Agreed Unit Rate	Estimated Cost Amount

5109 Instruction to Conduct Daywork

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
INSTRUCTION TO CONDUCT DAYWORK			No:

In accordance with Clause [xxx] [insert clause] of the General Conditions of Contract we hereby issue the instruction to execute the following varied work on a Daywork basis.

……

You shall be paid for such varied work under the terms set out in the Daywork schedules included in the Contract and at the rates and prices affixed thereto by you in your Tender.

You shall furnish to us such receipts or other vouchers as may be necessary to prove the amounts paid and, before ordering materials, shall submit to us quotations for the same for our approval.

In respect of such of the Works executed on a Daywork basis, you shall, during the continuance of such work, deliver each day to the us an exact list in duplicate of the names, occupation and time of all workmen employed on such work and a statement, also in duplicate, showing the description and quantity of all materials and Contractor's Equipment used thereon or therefor other than Contractor's Equipment which is included in the percentage addition in accordance with such Daywork Schedule. One copy of each list and statement will, if correct, or when agreed, be signed by us and returned to you.

At the end of each month you shall deliver to us a priced statement of the labour, materials and Contractor's Equipment, except as aforesaid, used and you shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if we consider that for any reason the sending of such lists or statements by you, in accordance with the foregoing provision, was impracticable we shall nevertheless be entitled to authorise payment for such work, either as Daywork, on being satisfied as to the time employed and the labour, materials and Contractor's Equipment used on such work, or at such value therefor as shall, in our opinion, be fair and reasonable.

Signed:_____
Engineer's Representative

We, the undersigned Contractor, have given careful consideration to the above Instruction to conduct Daywork and hereby agree, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the Work above specified.

Accepted: _____ Contractor	Date:
cc – the Employer	

5110 Engineer's Decision

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*

Engineer's Decision

To: The Employer
Director &CEO
Road Development Agency
Fairly Road
P.O.Box 50003,
Lusaka
For the attention of: ……..

To: The Contractor
Name and address

Dear Sirs,

With reference to Clause [xxx] [insert clause] we are contractually obliged to issue an Engineer's Decision not later than 84 days after having received notification from either contract party (Employer or Contractor) of the existence of a Dispute between both parties. Pursuant to this Clause the Engineer shall give notice of his decision to both the Employer and the Contractor.

This is to confirm that we have on ……. received a notice in writing from …….. informing us of the following Dispute:

(describe briefly the Dispute in question)

Having carefully studied and evaluated all aspects of the Dispute we herewith, pursuant to Clause 67.1, issue our Decision. All considerations of this Decision are presented on the next sheet(s) for your due acceptance or otherwise. For reasons of clarity and transparency the Decision has been formulated brief and concise. Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

Kindly would you note that if either the Employer or the Contractor be dissatisfied with any decision of the Engineer, then either the Employer or the Contractor may, on or before the 70th day after the day on which he received notice of such decision, or on or before the 70th day after the day on which the said period of 84 days expired, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration as to the matter in dispute.

(refer to the next page)

We also draw your attention to the fact that if the Engineer has given notice of his decision to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the 70th day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor

Yours faithfully,
(Name of Engineer's organisation, company or firm)

……
(Engineer)

Road Development Agency

Date:

Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*

Engineer's Decision

THE DISPUTE:

(set out here a brief concise recapitulation of the Claim leading to the Dispute and the reasons perceived for submitting the request to the Engineer to issue an Engineer's Decision pursuant to clause xxx)

CONSIDERATIONS:

(the Engineer here sets out all considerations relevant to the Dispute and his Decision).

THE DECISION:

(the Engineer to state here whether the Claim is rejected or can be entertained. In case the Claim is accepted state whether as a result a financial settlement will have to be effected or otherwise the consequence of the Decision is a variation to the Contract period).

5111 Access to site

Road Development Agency 			Date:
Supervisor's Representative: *Name of SR*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
ACCESS TO SITE			
To: *Name and address of the Contractor* Pursuant to clause [xxx] [insert clause] of the General Conditions for Works Contracts, we, in the capacity of the Supervisor delegated under the Contract by the Contracting Authority in accordance with clause [xxx] [insert clause], hereby place, upon the issue of the Commencement Order, the Site and Access to the following described Works at your disposal in accordance with the Programme of Performance referred in these General Conditions: *Name of Works Contract* The date for Access to Site thereto shall be the date on which you have been instructed to commence the Works. Signed: _____ Road Development Agency of the Ministry of Works and Supply (Supervisor) Ratified: _____ Contracting Authority			
cc – the Supervisor's Representative *(Name of Supervisor's Representative)*			

5112 SR's Duties and Authority

Road Development Agency			Date:
Supervisor's Representative: *Name of SR*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*

SUPERVISOR'S REPRESENTATIVE DUTIES AND AUTHORITY

To: *Name and address of Supervisor's Representative*

In accordance with clause [xxx] [insert clause] of the General Conditions for Works Contracts you are hereby designated by us to represent us in the performance of the Supervision of the following Works Contract:

Name of Works Contract

Furthermore, in accordance with clause [xxx] [insert clause]. we hereby delegate to you the duties and authority vested in the Supervisor, excepting the following:

- Extending the period of performance of the Contract in accordance with clause [xxx] [insert clause] of the General Conditions
- Issuing Variation Orders in accordance with clause [xxx] [insert clause] of the General Conditions
- Issuing Orders to conduct Daywork in accordance with clause [xxx] [insert clause] of the Special Conditions
- Issuing Orders to Suspend the Works in accordance with clause [xxx] [insert clause] of the General Conditions
- Accepting Claims for additional payment in accordance with clause [xxx] [insert clause] of the General Conditions
- Partially or Provisionally accepting a part or the whole of the Works in accordance with clause [xxx] [insert clause] and clause [xxx] [insert clause] of the General Conditions, or Finally accepting the whole of the Works in accordance with clause [xxx] [insert clause] of the General Conditions
- Terminating the Contract in accordance with clause [xxx] [insert clause] of the General Conditions
- Settling Disputes in accordance with clause [xxx] [insert clause] of the General Conditions of Contract

Appropriate action on the above named Articles shall only be executed by you upon due consultation with us and the Contracting Authority, and our subsequent approval to act accordingly.

Signed: _____
Supervisor

cc -Contractor *(Name of Contractor)*
-Contracting Authority

5201 Measurement Sheet

Road Development Agency			Date:
Engineer: Name of Engineer	Contractor: Name of Contractor	Project Name: Name of Project	Works Contract No: Number
MEASUREMENT SHEET			
FOR THE PERIOD …….. FOR IPC NO. …….			

ITEM		TOTAL QUANTITY
13.00	GENERAL OBLIGATIONS	
13.01[a]	Fixed Obligations	
	Specification 1303 — 50% on first IPC, with a substantial start; 35% when value of work done =50% of tender; 15% when the works are complete	
	Lump Sum (amount) ZMK	ZMK (amount) FINAL QUANTITY
	50% of lump sum 0.5000	
	35% of lump sum 0.3500	
	10% of lump sum 0.1500	
	Total Factor 1.0000	
17.00	CLEARING & GRUBBING	
17.01	Clearing & Grubbing	

Sections treated	Start	Finish	Width	
Main Road	0	41900	30	
Main Road	37480	186500	30	Ha
D'kar Access Road	0	1100	20	599.80
Kuke Access Road	0	660	20	FINAL QUANTITY
Bodibeng Access Road	0	7000	20	
Sehithwa Access Roads	0	1100	20	
Sehithwa Weighscale		1.80	Ha	
Bodibeng School Access	0	600.00	12	
Various Multi-User Links	0	2400.00	20	
Total Area Cleared	599.80	Ha		

5202 Day work Summary Sheet

Roads Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No: *Number*

DAYWORK SUMMARY SHEET

Daywork Number	Date of Issue	Date Start	Date Finish	Total Cost	Labour	Plant Equip-ment	Materials	Brief description
1								
2								
		Contractor's percentage						
			Totals					
				Total	Labour	Plant Equipment	Materials	

5203 Day work Cost Summary Sheet

Road Development Agency

Date:

Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No: *Number*

DAYWORK COST SUMMARY SHEET

Daywork Order No.	Date of Daywork Order	Date of Start of Daywork	Date of Finish of Daywork	Brief description of Daywork
1	4 Nov.02	5 Nov.02	8 Nov.02	Pole Move

Date of actual work	Equipment and Personnel at work	Total Hours	Cost Rate in ZMK	Total Cost in ZMK	Nature of Activity
5 Nov.02	8 labourers	84.0			
	1 charge hand	10.5			
	1 drill rig	10.5			
	1 pickup	3.0			
	plant operator	10.5			
6 Nov.02	8 labourers	84.0			
	1 charge hand	10.5			
	1 drill rig	7.0			
	1 pickup	3.0			
	plant operator	7.0			
etc.					
				Total cost of Daywork	

Materials	Quantity	Rate	Cost
		Total Cost of Materials	

Signed:

Engineer's Representative
Date:

Signed:

Site Agent
Date:

5204 Measurement Sheet for Variation Orders

Roads DevelopmentAgency		Date:	
Engineer: *Name of Engineer*	**Contractor:** *Name of Contractor*	**Project Name:** *Name of Project*	**Works Contract No:** *Number*

MEASUREMENT SHEET
FOR VARIATION ORDERS

Month / Year	**INTERIM PAYMENT CERTIFICATE NO. …**	**TOTAL AMOUNT OF V.O.**

VARIATION ORDER NO.1

For reimbursement of a sum paid for installation of Sehithwa Weighscale

	SUM APPROVED (RDS)	383,867.52	ZMK	Basic Installation
	SUM APPROVED (UNETEC)	5,045.84	ZMK	Brick walls
	SUM APPROVED (UNETEC)	3,897.70	ZMK	30MPa concrete
	SUM APPROVED (RDS)	7,915.42	ZMK	price escalation
	TOTAL APPROVED SUM	400,726.48	ZMK	

1	Original Base Quotation	ZMK	263,847.37	
	Dated March/9/00	Validity Period expires on May/9/00		
	Approval given June/6/00 : SI #487			
2	20% Mark-Up on "1"	ZMK	52,769.47	
3	Additional Support Costs	ZMK	32,450.77	
4	Security Fencing	ZMK	34,799.91	to be re-measured
5	Extra for Brick Wall	ZMK	2,522.92	
6	Extra for 30MPa Concrete	ZMK	3,897.70	
7	Extra for Escalation : 1.5% p.m.	ZMK	7,915.42	
	2 months escalation considered appropriate			
8	Extra for second Brick Wall	ZMK	2,522.92	
9	Extra for desk & chair	ZMK	2,434.18	
	TOTAL PAYABLE	ZMK	403,160.67	

ZMK
825,482.00

ZMK **364,463.06** CURRENT TOTAL SUM TO BE REIMBURSED
ITEMS 1, 2, 3, 5, 7, 8 & 9 plus Security Fence Re-measure

VARIATION ORDER NO.2

For reimbursement of a sum paid for installation of two traffic counters

1	Supply & Installation 2 Sites	51,075.00	ZMK	
2	CCC Installation Mark-up	10,215.00	ZMK	
3	Maintenance Agreement		ZMK	Not now applicable
4	CCC Maintenance Mark-up		ZMK	Not now applicable
	TOTAL PAYABLE	61,290.00	ZMK	

ZMK
61,290.00

ZMK **57,609.90** FINAL SUM TO BE REIMBURSED

	Note that the final sum is somewhat lower than the quotation as no import taxation was levied	

5205 Materials on Site

Roads Development Agency			Date:……
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No: *Number*

MATERIALS ON SITE
Calculation Sheet

Current Measurement for this IPC

Item	Description	Quantity on site	Unit	Unit Cost as Invoice	Factor	Cost
1	Km markers 600 x 450 mm	60	no.	450.08	80%	21,603.84
2	Marker Posts	80	no.	130.00	80%	104.00
3	750mm pipes	30	m	320.98	80%	7,703.52
4	600mm pipe	12	m	196.49	80%	1,886.30
5	Kerbs	66	m	120.00	80%	96.00
6	Road Signs	24	no.	212.00	80%	169.60
7	80/100 Bitumen	100	gallon	80.00	80%	6,400.00
8	GuardRails	1,200	m	100.00	80%	80.00
9	Reinforcing steel 6.7mm	540	kg	91.40	80%	39,484.80
10	Reinforcing steel 9.5mm	380	kg	89.70	80%	27,268.80
11	Reinforcing steel 19mm	120	kg	82.80	80%	7,948.80
12	Fence Posts	120	no.	50.00	80%	40.00
13	Fencing barbed wire	1,200	m	40.00	80%	32.00
14	BaseCourse aggregate	36	m3	47.69	80%	1,373.47
				TOTAL		114,191.14

5206 Plant on Site

Road Development Agency			Date:
Engineer: *Name of Engineer*	**Contractor:** *Name of Contractor*	**Project Name:** *Name of Project*	**Works Contract No:** *Number*

PLANT ON SITE
Calculation sheet

Item	Description	Quantity on site	Unit	Unit Cost as Invoice	Factor	Cost
1	Paver	1	no.	120,000	80%	96,000
					TOTAL	96,000

5207 Repayment of Advance

Road Development Agency Date:

Engineer:	Contractor`:	Project Name:	Works Contract No:
Name of Engineer	*Name of Contractor*	*Name of Project*	*Number*

REPAYMENT OF ADVANCE
Calculation Sheet

Repayment details in accordance with Clause 60.7 and Appendix to Tender		Amount
Contract Sum		*102,000,000*
Advance Payment,	10 % of Contract Sum	*10,200,000*
Repayment to start when total of IPC's has reached 20% of Contract Sum		*20,400,000*
20 % of Contract Sum has been reached with IPC no.3		
Repayment of Advance to be in 5 installment thereafter.	Installments:	*2,040,000*

Repayment schedule

IPC no.	Period	Installment	Accumulated Installments
IPC no. 4	April 2002	*2,040,000*	*2,040,000*
IPC no. 5	May 2002	*2,040,000*	*4,080,000*
IPC no. 6	June 2002	*2,040,000*	*6,120,000*
IPC no. 7	July 2002	*2,040,000*	*8,160,000*
IPC no. 8	August 2002	*2,040,000*	*10,200,000*
		Total repayment:	*10,200,000*

5208 Liquidated Damages

Road Development Agency

Date:

Engineer: *Name of Engineer*	**Contractor:** *Name of Contractor*	**Project Name:** *Name of Project*	**Works Contract No:** *Number*

LIQUIDATED DAMAGES
Calculation Sheet

Payment details in accordance with Clause 47.1 and Appendix to Tender		**Amount ZMK**
Contract Sum		*102,000,000*
Payment of Liquidated Damages @ 1/10,000 per calendar day		*10,200*
Limit of Liquidated damages 5% of Contract Sum		*5,100,000*
Calculation of liquidated damages		ZMK
Date for Completion	*31st January 2003*	
Actual Date for Taking Over	*28th February 2003*	
Number of Calendar Days Late	*28*	
Amount of Liquidated Damages to be deducted:	*28 x ZMK 10,200*	***285,600***

5209 Measurement Sheet for Claims

Road Development Agency			**Date:**
Engineer : *Name of Engineer*	**Contractor:** *Name of Contractor*	**Project Name:** *Name of Project*	**Works Contract No:** *Number*

MEASUREMENT SHEET FOR CLAIMS

Month / Year	**INTERIM PAYMENT CERTIFICATE NO. …**	**TOTAL AMOUNT OF CLAIM**
DISPUTE NO.1	**For reimbursement of a sum paid as a levy in respect of Quarry #1**	
	APPROVED **The Engineer's Recommendations in respect of Disputes 3, 5, 6, 7, 8, 9 & 13 have been fully implemented.** **A further submission related to the consequential costs of Dispute #2 has been requested from the Contractor**	ZMK 5,000.00
DISPUTE NO.2	**For reimbursement of costs for provision of Engineer's Facilities at Kuke Forward Camp**	
	ENGINEER'S RECOMMENDATION SUBMITTED Finalized as Variation Order #3	
DISPUTE NO.2	**For Extension of Time with Costs for Adverse Weather Conditions**	
	ENGINEER'S RECOMMENDATION SUBMITTED 0.00 ZMK Provisional Extension of Time Award Days 42 Contractor is required to substantiate the quantum of consequential costs Being finalized as a Claim	

5210 Monthly Calculation of Escalation of Prices

Roads Development Agency

Date:

Engineer:	Contractor:	Project Name:	Works Contract No:
Name of Engineer	*Name of Contractor*	*Name of Project*	*Number*

Monthly Calculation of Variation of Prices (Escalation)

	Rates January 2002:							VOP			VOP - Kwacha equivalent		
		ZMK	Unit	Source:	Qty.	FC 1	FC 2	ZMK	FC 1	FC 2	ZMK	FC 1	FC 2
1.	Diesel	1,361.40	Ltr.	Local	35,000	3	0		61,518	510	-	20,015,685	2,885,762
	- do -	1,380.60	Ltr.	Local	70,000	3	0		126,081	1,083	-	41,021,686	6,125,208
2.	Petrol	3,024.30	Ltr.	Local	1,940	7	0		10,415	167	-	3,388,762	946,392
	- do -	3,024.30	Ltr.	Local	1,370	7	0		7,355	118	-	2,393,095	668,328
3.	Furnace Oil	860,310.00	T.	Local	29	1,948	40		36,844	426	-	11,987,690	2,408,861
4.	Bitumen	1,090,440.21	T.	Imported	171	2,470	51		254,236	2,502	-	82,718,315	14,150,907
5.	Primer		T.	Imported		-	-		-	-	-	-	-
5a	Lime	420,984.34	T.	Imported	74	953	20		7,755	(861)	-	2,523,263	(4,868,844)
6.	Cement		T.	Imported		-	-		-	-	-	-	-
	- do -	464,620.00	T.	Local	1,100	1,052	22		711,630	7,377	-	231,536,564	41,728,291
7.	Concrete Pipe 600	215,470.19	Mtr.	Imported	63	488	10		16,728	120	-	5,442,531	678,449
8.	Concrete Pipe 825		Mtr.	Imported		-	-		-	-	-	-	-
9.	Concrete Pipe 900		Mtr.	Imported		-	-		-	-	-	-	-

10.	Culvert 3x1.2		Mtr.	Imported		-	-		-	-		-	-	-
11.	Culvert 3x1.5		Mtr.	Imported		-	-		-	-		-	-	-
12.	Culvert 3x1.8		Mtr.	Imported		-	-		-	-		-	-	-
12a	Metal Pipe 2000 dia		Mtr.	Imported		-	-		-	-		-	-	-
12b	Vehicle		Nr	Imported		-	-		-	-		-	-	-
13.	Cordtex		Nr.	Imported		-	-		-	-		-	-	-
14.	Busters		Nr.	Imported		-	-		-	-		-	-	-
15.	Benchmasters		Nr.	Imported		-	-		-	-		-	-	-
16.	Am.Nitrate		Kg.	Imported		-	-		-	-		-	-	-
17.	Labourers	762.00	Hrs.	Local	76,740	2	0		66,422	292		-	21,611,240	1,653,234
18.	Semi Skilled Labour	772.00	Hrs.	Local	11,898	2	0		10,568	51		-	3,438,341	287,633
19.	Skilled Labour	1,208.00	Hrs.	Local	10,949	3	0		14,258	38		-	4,638,939	214,493
20.	Operators	1,318.00	Hrs.	Local	27,056	3	0		39,386	137		-	12,814,517	775,150
21.	Reinforcement		T.	Imported		-	-		-	-		-	-	-
22.	Cat Spray	1,363,743.28	T.	Imported	24	3,088	63		45,878	495		-	14,926,967	2,798,230
23.	1/4 Prime		T.	Imported		-	-		-	-		-	-	-
24	Concrete Pipe 450		Mtr.	Imported		-	-		-	-		-	-	-
Reference Exchange Rates: (Info-Euro January 2002)		1 EUR =	3444.79	ZMK			Totals for month =	-	1,409,074	12,455		-	458,457,595	70,452,093
			0.8823	US$										
			0.6090	GBP			Totals to Date =	2,722,042,525	8,864,982	161,356		2,722,042,525	3,646,220,192	829,430,177
			10.5876	ZAR										
														7,197,692,894

5211 Calculation of Total Escalation of Prices

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No: *Number*
Calculation of Total Variation of Prices (Escalation)			

		Price Revision Paid				Sub-Totals Qty.	Total Qty.	Total Amount @ Base Rate
		ZMK	FC 1	FC 2				ZMK
1.	Diesel	1,676,274,387.83	950,071.74	20,581.65		3,183,478.18		
		393,428,988.25	881,397.62	17,595.24		1,377,117.00		
		31,509,813.17	560,992.83	12,962.55		427,043.41		
		9,666,859.18	387,133.25	4,386.54		361,006.05		
		37,472,187.56	3,345.29	54.12		56,979.44	5,405,624.08	3,748,530,018.28
2.	Petrol	60,733,093.82	67,719.32	1,781.68		57,705.58		
		5,272,409.83	1,242.46	28.50		3,034.63	60,740.21	47,041,470.44
3.	Furnace Oil	76,471,516.03	130,056.60	3,000.82		200.08		
		-	79,009.48	1,825.80		58.74		
		-	38,116.67	1,038.30		28.70		
		-	31,743.43	840.59		29.44		
		-	11,165.82	303.62		8.53	325.49	118,152,870.00
4.	Bitumen (60/70-80/100)	-	1,672,599.51	38,057.04		1,877.88		
		-	77,904.43	1,900.86		98.46		
		-	153,100.53	3,216.54		236.64	2,212.98	1,135,575,196.14

5.	Primer	-	318,035.99	8,227.18		337.78		
		-	199,298.05	5,119.43		208.60		
		-	29,035.55	662.75		30.72		
		-	16,923.26	298.36		30.00	607.10	368,173,973.70
5a.	Lime	-	15,567.33	(1,890.56)		339.50		
		-	-	-		-	339.50	150,724,321.71
6.	Cement	-	813,609.85	12,066.14		6,948.00		
		21,796,828.00	-	-		296.00		
		8,091,408.00	-	-		156.00		
		3,018,112.00	-	-		34.00	7,434.00	1,576,245,888.00
7.	Concrete Pipe 600	-	33,105.34	780.86		477.50		
		-	963.75	(12.62)		150.00	627.50	72,331,925.00
8.	Concrete Pipe 825	-	59,304.29	1,047.84		505.00	505.00	109,022,935.00
9.	Concrete Pipe 900	-	8,993.70	197.05		76.30	76.30	16,472,178.10
10.	Culvert 3x1.2	-	-	-		-	-	-
11.	Culvert 3x1.5	-	15,814.99	348.70		26.40	26.40	37,654,870.34
12.	Culvert 3x1.8	-	5,358.03	24.14		9.60	9.60	14,554,356.78
12a.	Metal Pipe 2000dia	-	35,539.15	710.86		67.84		
		-	46,274.57	812.25		107.03	174.87	106,377,093.27
12b.	Vehicle	-	21,942.55	92.67		1.00	1.00	58,760,883.89
		-	-	-		-		
13.	Cordtex	-	7,732.43	(1,265.20)		90.00		
		-	2,639.08	(26.19)		10.00	100.00	96,698,579.98
14.	Busters	-	83,572.90	938.13		1,431.00		
		-	29,781.25	199.67		330.00	1,761.00	134,405,799.47
15.	Benchmasters	-	7,579.61	118.43		8.00	8.00	3,333,769.53
16.	Am.Nitrate	-	-	-		-	-	-
		-	-	-		-		
17.	Labourers	173,226,749.28	197,990.43	3,071.98		999,427.94	999,427.94	449,742,573.00
18.	Semi Skilled Labour	42,766,172.40	33,915.75	538.38		205,610.70	205,610.70	92,524,815.00

19.	Skilled Labour	52,081,470.00	42,083.22	521.64		177,942.00	177,942.00	133,456,500.00
20.	Operators	130,232,529.70	131,775.35	1,847.29		430,122.15	430,122.15	344,097,720.00
		-	-	-		-		
21.	Reinforcement	-	157,655.43	4,991.72		8.64		
		-	15,294.87	488.36		0.98	9.62	10,429,359.46
22.	Cat Spray	-	51,357.81	984.92		45.21	45.21	27,417,468.87
23.	1/4 Prime	-	29,164.45	432.73		30.86	30.86	18,714,954.42
24.	Concrete Pipe 450	-	-	-		-	-	-
	Totals	2,722,042,525.04	7,455,907.95	148,900.77				8,870,439,520.37

In ZMK at Contract Rates:	2,722,042,525.04	2,874,177,957.54	557,262,631.95	Maximum:	2,722,042,525.04
Total ZMK:			6,153,483,114.52		

5301 Minutes of Meeting

Road Development Agency  Date:			
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
MINUTES OF MEETING NO. ..... Held in the office of ……..at ……. .on …….			

Present:

Name:	Denomination:	Company/Organisation:
– …….	– …….	– …….
– …….	– …….	– …….
– …….	– …….	– …….
– …….	– …….	– …….
Absent:	Denomination	Company/Organisation
– …….		

Item	Description	Action
1.	The following comments were made as regards the Minutes of the last Meeting. i. …… ii. …… Otherwise the Minutes and the above comments were adopted as providing a true record of the relevant Meeting.	
2.		
Etc.		

Signed for:
Contractor:

Signed for:
Engineer:

5302 Daily Log Sheet

Road Development Agency  Date:			
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*
DAILY LOG SHEET			
Weather:		Delays and reasons (if any):	
Accidents (if any):			
Location(s) where work was performed:			
Contractor's resources deployed during the day:			
Labour:		Equipment and plant	

Category:	Number	Type:	Work	Idle
– *Supervisor* – *Foreman* – *Skilled labour* – *Bricklayer* – *Mason* – *Carpenter* – *Steel fixer* – *Welder/fitter* – *Mechanic/electrician* – *Driver* – *Operator* – *Labourer* – *(Etc. above list to be altered as applicable to the relevant project)*		– *Grader* – *Tractor* – *Bulldozer* – *Roller* – *Sheepfootroller* – *Vibrator roller* – *Pneumatic roller* – *Wheel loader* – *Excavator* – *Tanker truck* – *Dump truck* – *Concrete mixer* – *Concrete vibrator* – *Generator* – *Compressor* – *Tipper truck* – *Water pump* – *Truck crane* – *Bitumen distributor* – *Chip spreader* – *Asphalt paving machine* – *Concrete batching plant* – *Ashpalt mixing plant* – *Etc.*		

Materials used:	Materials in stock:
Narrative report: *(insert brief description of relevant occurrences)*	
Signed for: _____ Contractor Date:	Signed for: _____ Engineer Date:

5303 Monthly Progress Report

Road Development Agency			Date:
Engineer: *Name of Engineer*	**Contractor:** *Name of Contractor*	**Project Name:** *Name of Project*	**Works Contract No.** *Number*

MONTHLY PROGRESS REPORT

NO. ……

FOR THE MONTH OF ……., ……

Below a comprehensive overview of issues to be dealt with in the Standard Monthly Progress Report is provided. It should be remembered that no project is similar. In other words the actual project circumstances would almost certainly give rise to the need to either make changes and or additions to the MPR format given here. Hence the MPR format given should not be interpreted to be dictative. The User is encouraged to deviate from the standard format, provided all essential issues shown in this MPR format are properly addressed.

(suggested outline for the MPR's contents)

CONTENTS

achieved. These to be presented in Excel Tables and Graphs all as shown on the relevant Sample sheets given hereafter)

2.5 Progress photo's *(present a number of photo's showing relevant work in progress)*

3 FINANCIAL

3.1 Key financial data *(list such data as: original Contract Sum, Variation Orders and other Additions and Deductions, revised Contract Sum and percentage of financial completion)*

3.2 Interim Payment Certificates *(provide in an Annex a list of payments such as Advance Payment and IPC's mentioning amounts, date of certification, date of submission to the Employer and date of payment received)*

4 CONTRACTOR'S RESOURCES

4.1 Personnel *(provide in an Annex an overview of Sr. Staff with names and denominations, labour (no names need be mentioned) grouped by skills and numbers deployed)*

4.2 Plant and equipment *(list in an Annex plant (concrete batching plant, asphalt bitumen mixing plant)and equipment (bulldozers, tankers, etc.) deployed during the month. Indicate whether they were working, kept idle or under repair)*

4.3 Materials and Plant in stock *(provide in some detail a record of materials arrived on site and kept in stock, and plant (if any) which arrived and which is intended to be incorporated in the works)*

5 CONSTRAINTS AND CLAIMS

5.1. Constraints *(were there any constraints caused by external occurrences, delays in payments or late decisions taken by the Employer or other parties having a bearing on project progress)*

5.2. Claims *(list Claims mentioning briefly what claim, amount, date submitted, status of acceptance or rejection)*

6 QUALITY CONTROL

6.1 Materials Sources/Construction Materials *(Quarries for graded crushed stone, asphalt concrete wearing course and surface dressing, Borrow pits for sand and laterite, their status in terms of capacity)*

6.2 Compliance Testing on Site *(provide in an Annex details on Sampling and testing (Sieve analysis, Atterberg Limits, CBR, MDD, OMC, compaction etc., as applicable)*

6.3 Partial/Provisional Acceptance *(report on partial/provisional acceptance of materials if and when relevant)*

7 MISCELLANEOUS

7.1 Climatic conditions *(rain gauges installed and list in an Annex the rainfall statistics)*

7.2 Environmental and Safety issues *(describe measures taken to avoid environmental damage such as disposal of diesel and oil spillage and waste; describe other environmental observations of relevance; describe safety measures such as traffic deviations and warning signalling etc.)*

7.3 Visitors to Site *(name important visitors during the month)*

7.4 Meetings *(provide an overview of dates and types of meetings held)*

7.5 Incidents on Site *(report of any incidents such as accidents and further details)*

8 CONSULTANT'S REPORT

8.1 Staff *(names and denomination of staff and their presence during the month)*

8.2 Logistics *(any logistic issue worth attention, such as state of office, office equipment, transport and accommodation)*

8.3 Financial *(list in an Annex an overview of Invoices, amounts, dates of submission and status of payment)*

LIST OF ANNEXES

I. Advance and IPC's
II. Contractor's Personnel
III. Contractor's Plant & Equipment
IV. Test Results
V. Climate
VI. List of Correspondence exchanged with the Contractor during the month
VII. List of Reports issued

APPENDIX F.: PROJECT HUMAN RESOURCE MANAGEMENT DOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
6101	Consultant Timesheet
6201	Labour Return

6101 Consultant Timesheet

Road Development Agency

Date:

Engineer:	Contractor	Project Name:	Works Contract No.
Name of Engineer	*Name of Contractor*	*Name of Project*	*Number*

SITE STAFF - MONTHLY TIMESHEET

MONTH: JULY 2010

KEY — WORKING TIME; WEEKENDS AND PUBLIC HOLIDAYS

DESIGNATION	TOTAL (month)	PROJECT TIME																															COMMENT
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
RESIDENT ENGINEER	1																																
ASSISTANT RESIDENT ENGINEER	0																																
INSPECTOR OF WORKS	1																																
SURVEYOR	0																																
SOILS/MATERIALS TECHNICIAN	1																																

SIGNED BY: REGIONAL ENGINEER
ROAD DEVELOPMENT AGENCY - *LUAPULA PROVINCE*

6201 Labour Return

Road Development Agency			**Date:**
Engineer: *Name of Engineer*	**Contractor:** *Name of Contractor*	**Project Name:** *Name of Project*	**Works Contract No.:** *Number*
RECORDING MONTHLY LABOUR RETURNS ON SITE			**No:**

Signed: _____ Date:
Consultant

	Consultants Labour Return on the Project						
Item No.	Name of Person	Designation	Indicate whether Male or Female	Indicate if personnel is member of EIZ	Indicate if personnel is replacement [Dates]	Indicate if personnel was approved by Client [Dates]	Indicate the Experience
1							
2							
3							
4							
Total Labour							

APPENDIX G.: PROJECT COMMUNICATIONS MANAGEMENT DOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
8101	Communication Management Plan

8101 Communication Management Plan Template

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No.: *Number*
PROJECT COMMUNICATION PLAN			No:
We, the undersigned Consultant, have carefully reviewed the Communication Plan Document Submitted by the Contractor and it conforms to RDA Standard Quality Control Guideline Manual. Accepted: _____ Date: Consultant			

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1.0 Purpose

This section should provide a high-level explanation of purpose of the Communication Management Plan. Generally, the purpose of the Communication Management Plan is to outline and define the requirements for all communication associated with the project in order to ensure project success. This section may also include a general description of what is contained in the plan.

2.0 Roles and Responsibilities

This section describes the roles and responsibilities of all key project personnel. In order to facilitate effective communication it is imperative that these roles and responsibilities are clearly defined. If they are not, the project runs the risk of multiple team members overlapping and performing the same functions or, worse, some tasks going unassigned resulting in communication gaps. The resulting miscommunication can result in significant schedule delays, cost overruns, or project failure. This section should include a list of all key personnel (with names where appropriate), titles, and what their roles and responsibilities are.

2.1 Project Team

Describe the project team including their positions and roles in the communication of key issues on the project.

2.2 Project Stakeholders

There are numerous stakeholders for the road Project. When necessary, the project stakeholders are responsible for providing requested information to the Project Manager for use in project communications.

3.0 Communication Matrix

There are many forms of communication which take place during a project. Meetings, reports, and gate reviews are some of the means by which information is shared and distributed during the life of a project. These are formal events which must be conducted effectively and efficiently in order to ensure the right people receive the right information and that the project continues to move forward smoothly. The table below shows typical flow of communication on a project which can always be modified.

Communication Type	Description	Frequency	Format	Participants/ Distribution	Deliverable	Owner
Weekly Status Report	E mail summary of project status	Weekly	E mail	Project Team and Stakeholders	Status Report	Project Manager
Weekly Project Team Meeting	Meeting to review action register and status	Weekly	In Person	Project Team	Updated Action Register	Project Manager
Monthly Project Review	Present metrics and status to team and sponsor	Monthly	In Person	Project Team, and Stakeholders	Status and Metric Presentation	Project Manager

Weekly Construction Status	Report outlining weekly progress and issues	Weekly	E Mail	Project Team	Construction Status Update	Contractor Team Lead
Project Gate Reviews	Present closeout of project phases and kick-off next phase	As Needed	In Person	Project Team and Stakeholders	Phase completion report and phase kick-off	Project Manager
Technical Design Review	Review of any technical designs or work associated with the project	As Needed	In Person	Project Team	Technical Design Package	Project Manager

4.0 Project Team and Stakeholder Identification

This section should provide a list of everyone involved with the project as well as their contact information. It is key to have all contact information conveniently located and available to the group so anyone may be reached at any time in case some type of informal communication is required for various project tasks.

Name	Title	E mail	Office Phone	Cell Phone

5.0 Communication Conduct

This section should discuss the conduct expected of all team members when participating in meetings or other project communication. It is vital to establish guidelines so that communication flow is understood and remains consistent throughout the project. Additionally, if no rules are established to control communication, then meetings and other forms of communication may become inefficient and obstruct progress.

This section provides guidance to all project participants for conduct expected in meetings and other forms of communication. All participants are expected to adhere to these guidelines at all times to prevent unnecessary or ineffective communication.

5.1 Meetings

This section discusses expected meeting conduct

5.2 Electronic Mail (Email)

This section discusses expected email conduct

5.3 Informal Communication

This section discusses the conduct expected when communicating informally

6.0 Approvals

All project and management plans must have the approval of the Project Manager or any senior personnel in charge of the project. The signatures of these individuals indicate their acknowledgement and understanding of the Communication Management Plan.

Approver Name	Title	Signature	Date

APPENDIX H.: PROJECT RISK MANAGEMENTDOCUMENTS, STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
8101	*Standard Form no. RMP 8101*

8101 Standard Form no. RMP 8101- Template

Road Development Agency 			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No.:*Number*
RISK MANAGEMENT PLAN			No:
We, the undersigned Consultant, have carefully reviewed the Risk Management Plan Document Submitted by the Contractor and it conforms to RDA Standard Quality Control Guideline Manual. Accepted: _____ Date: Consultant			

TABLE OF CONTENTs

1 Introduction

1.1 Purpose Of The Risk Management Plan

[Provide the purpose of the Risk Management Plan.]

2 Risk Management Procedure

2.1 Process

[Summarize the steps necessary for responding to project risk.]

2.2 Risk Identification

[Describe the key persons involved in the identification of the risk and critical areas of the project that will require careful attention. The main risk categories to consider when identifying risk are provided in the table below]

Category	Examples
Planning risk	Parts of the project require planning permission, environmental permits, etc. Installation does not comply with planning/environmental/regulatory requirements.
Development& Procurement stage risk	Initial estimates of costs or savings unrealistic. Client decides not to proceed with project.
Implementation /Design & Construction stage risk	Construction or commissioning delays will delay cash flows from savings. Construction cost overruns. Equipment not installed according to design and savings specifications.
Operating risk	✓ Technical performance issues that results in savings being lower than expected. ✓ Equipment failure or unreliability. ✓ Weather changing heating or cooling requirements or space going outside agreed environmental conditions. ✓ Metering or monitoring equipment failure. ✓ Difficulties in measuring and verifying savings. ✓ Required operation and maintenance is not performed.
Residual value risk	The residual value of equipment at end of contract term is less than expected.
Financial risk	Risk of incurring more costs on execution of works by main or sub-contractors due to rise in fuel prices.
Legal risk	Changes to regulations or legislation that may impact project. Parties don't adhere to contractual responsibilities.
Organisational risk	Human factors.

Reputational risk	Potential for adverse publicity or damage to corporate reputation if project goes badly, interest or staff groups oppose the project, or media/political developments.

2.2.1 Methods of Risk Identification

[Describe the methods that will be used to assist the identification of risk associated with the given assignment]

2.3 Risk Analysis

[Briefly describe analysis of the identified risks]

2.3.1 Qualitative Risk Analysis

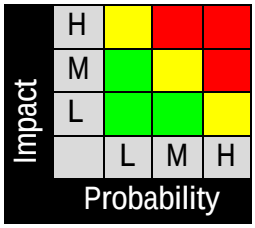
The probability and impact of occurrence for each identified risk will be assessed by the project manager, with input from the project team using the following approach:

2.3.1.1 Probability

- High – Greater than <*70%*> probability of occurrence
- Medium – Between <*30%*> and <*70%*> probability of occurrence
- Low – Below <*30%*> probability of occurrence

2.3.1.2 Impact

- High – Risk that has the potential to greatly impact project cost, project schedule or performance
- Medium – Risk that has the potential to slightly impact project cost, project schedule or performance
- Low – Risk that has relatively little impact on cost, schedule or performance



Risks that fall within the high probability and impart zones will be labelled “MAJOR RISK” and will have risk response planning which may include both risk mitigation and a risk contingency plan.

2.3.2 Quantitative Risk Analysis

[Describe the probability of a risk event occurring and the impact the risk will have if it does occur]

2.4 Risk Response Planning

[Describe how the identified high risks can be reduced to medium or low risked by mitigation strategies. These include risk reduction, risk avoidance and risk transfer. Residual risk will remain]

2.5 Risk Monitoring, Controlling, And Reporting

[Describe the roles of concerned stakeholders of the project in identifying and analyzing new risk, keeping track of new risks and forming contingency plans. Furthermore, indicate how the information will be communicated between the relevant stakeholders of the project]

3 Tools and Practices

[Describe the tools that will be used to keep a data base of the risks identified, monitored and controlled on a

project]

4 Closing A Risk

[Describe circumstances in which a risk for the project will be considered closed.]

Annex a: risk management plan approval

The undersigned acknowledge that they have reviewed the Project Risk Management Plan for the *<Project Name>* project. Changes to this Risk Management Plan will be coordinated with and approved by the undersigned or their designated representatives.

[List the individuals whose signatures are desired. Examples of such individuals are Business Steward, Project Manager or Project Sponsor. Add additional lines for signature as necessary. Although signatures are desired, they are not always required to move forward with the practices outlined within this document.]

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

_____

Annex b: risk identification table

[Insert the name, version number, description, and physical location of any documents referenced in this document. Add rows to the table as necessary.]

The following table summarizes the documents referenced in this document.

Risk Description	Reasons	Primary Controller of risk	Risk Response: Is this risk preventable or needs extra budget to mitigate

Annex c: risk analysis table

[Add rows to the table as necessary]

Risk Description	Probability	Impact	Zone
[Briefly state the risk]	*[Insert the percentage]*	*[State whether its Low/Medium/High]*	*[State whether its Low/Medium/High/Major]*
[Briefly state the risk]	*[Insert the percentage]*	*[State whether its Low/Medium/High]*	*State whether its Low/Medium/High/Major]*

Annex d: major risk mitigation action plan/record

[Add rows to the table as necessary]

Risk Description	Plan of Action	Timing/Costs	Monitoring
[Briefly state the risk]	*[Mention the plan of action]*	*[Explain the effects of the risk on the project costs and time completion]*	*[Describe the concerned party involved in the monitoring of the risk]*
[Briefly state the risk]	*[Mention the plan of action]*	*[Explain the effects of the risk on the project costs and time completion]*	*[Describe the concerned party involved in the monitoring of the risk]*

APPENDIX I.: PROJECT ENVIRONMENTAL, HEALTH AND SAFETYMANAGEMENT- STANDARD FORMS AND TEMPLATES

Standard Form Number	Description or Title of Document
9101	Environmental Impact Assessment and Environmental Management Plan-Refer to the PROCEDURES MANUAL FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT IN THE ROADS SECTOR IN ZAMBIA which can be obtain form RDA
9201	HIV-AIDS

9101 Environmental Impact Assessment and Environmental Management Plan

Refer to the PROCEDURES MANUAL FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT IN THE ROADS SECTOR IN ZAMBIA. The manual can be obtain form RDA.

9201 HIV-AIDS

Road Development Agency			Date:
Engineer: *Name of Engineer*	Contractor: *Name of Contractor*	Project Name: *Name of Project*	Works Contract No. *Number*

HIV/AIDS AND GENDER SENSITIZATION PROGRAMME

Report NO. ……

FOR THE MONTH OF ……., DATE SENSITIZATION CONDUCTED……..

Prepared by: [*Indicate name of organisation involved in the sensitization campaign of HIV/AIDS*

Checked and Signed by: [*Authenticate the Document*]

Date Submitted: [*Indicate the date it was submitted to the Consultant for approval]*