public works,
roads & transport
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

Rhino Building (Previously Building 7),
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Litiko Letemisebenti Yemphakatsi, Temigwaco Netekutfutsa | Departement van Openbare Werke, Paaie en Vervoer | UmNyango wezemiSebenzi yomPhakathi, zeeNdlela nezokuThutha

Reference : PWRT/2458/20/MP

Enquiries : Mr M Rikhotso / Mr S Pienaar

Contact : (013) 766 8526 / (079) 513 5074

BID NUMBER: PWRT/2458/20/MP

BID NUMBER PWRT/2458/20/MP: PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS & TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

ADDENDUMS:

1. **TENDERING PROCEDURES**
2. **PRICING DATA AND SCOPE OF WORKS**

Herewith please find Addendums to be read in conjunction with the issued tender document and forms part of the above-mentioned tender.

PLEASE ACKNOWLEDGE RECEIPT OF THESE ADDENDUMS BY SIGNING THE ACKNOWLEDGEMENT OF RECEIPT FORM.

Failure to acknowledge receipt of Addendums may prejudice the submitted Tenders.

Yours faithfully

MR. MC MOROLO
(A) HEAD: PUBLIC WORKS ROADS AND TRANSPORT

DATE: 09/12/2020.

public works,
roads & transport
MPUMALANGA PROVINCE
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TENDERER : _____

NAME OF AUTHORIZED PERSON: _____

SIGNATURE OF AUTHORIZED PERSON: _____

DATE: _____

Note: Please email signed acknowledgement of receipt of addendums to:
rikhotso.mikateko@gmail.com

MPUMALANGA PROVINCIAL GOVERNMENT

DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

BID NUMBER: PWRT/2458/20/MP

BID NUMBER PWRT/2458/20/MP: PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS & TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

ADDENDUM NO. 1 TO THE TENDER DOCUMENT

1. GENERAL

This Addendum No.1 consists of omissions to the tender document. This addendum forms an integral part of the tender document and shall be interpreted as such in the completion of the tender. A complete copy of this addendum, signed on behalf of the tenderer, is to be submitted with the tender document.

Tenderers are required to acknowledge receipt of this addendum within 48 hours for which a special form is herewith supplied.

2. ADDENDUM No. 1

2.1 TENDER NOTICE AND INVITATION TO TENDER

On page T-6, **delete** the equipment (TSSD and 3D laser scanning cameras) required for instrument measurements as follows (equipment not needed for this contract are denoted by a single strikethrough):

- 01 (one) No Network Survey Vehicle incorporating Class 1 High Speed Profiler for:
  - Scalable longitudinal and transverse road profiling
  - Riding Quality (IRI)
  - Rut Depth
  - Texture Depth

- ~~01 (one) No Network Survey Vehicle equipped with the above PLUS high resolution digital cameras and 3D laser scanning:~~
  - ~~260 degree continuous digital imaging (140° front right of way and 120° rear)~~
  - ~~Automated crack detection~~
- 01 (one) No Falling Weight Deflectometer (FWD)
- ~~01 (one) No Traffic Speed Deflectometer Device (TSDD)~~
- 01 (one) No Traffic Speed Friction Measurement device

- For the un-paved roads instrument measurements, the following equipment is required:

- 01 (one) No Network Survey Vehicle incorporating:

    - Response type riding quality profiler (Class 3)
    - Front (right of way) and rear digital imaging

(Note:

Only "Falling Weight Deflectometer (FWD)" instrument measurements are required for this tender. Automated Crack imaging and crack detection is also not required for instrument measurements; this must be carried out using TMH9 methods.)

2.2 TENDER DATA

On page T-10, **delete** the last bullet under Clause F2.1 and replace with the following:

"Tenderers must provide the road surveillance / testing equipment as listed in Part T1.1 when required. The road surveillance / testing equipment can be provided either **solely** or in **Joint Venture** or **hired / leased**."

--------END OF ADDENDUM No.1----------

3. SIGNATURE OF TENDERER

(Note: A duly signed copy of this complete Addendum No. 1 to the Tender Document is to be submitted with the tender document):

SIGNED ON BEHALF OF TENDERER: _____

DATE: _____

TENDERER: _____

MPUMALANGA PROVINCIAL GOVERNMENT

DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT,

BID NUMBER: PWRT/2458/20/MP

BID NUMBER PWRT/2458/20/MP: PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS & TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

ADDENDUM NO. 2 TO THE TENDER DOCUMENT

1. GENERAL

This Addendum No.2 consists of additions, omissions and amendments to the tender document. This addendum forms an integral part of the tender document and shall be interpreted as such in the completion of the tender. The Pricing Schedule inclusive of all affected items is re-issued in full in PDF format.

A complete copy of this addendum, signed on behalf of the tenderer, is to be submitted with the tender document.

Tenderers are required to acknowledge receipt of this addendum within 48 hours for which a special form is herewith supplied.

2. ADDENDUM No. 2

2.1 PART C1: CONTRACT DATA

2.1.1 CLAUSE 5.4.1

On page C-7, **amend** clause 5.4.1 under "Data provided by Employer" table to read as follows:

"The Service Provider is required to provide professional indemnity cover as set out in the Professional Indemnity Schedule of not less than two (2) times the annual basic fee, excluding equipment."

2.2 PART C2: PRICING DATA

2.2.1 c2.2a) PRICING SCHEDULE OF RATES: YEAR 1 to 5

The Pricing Schedule inclusive of all affected items is re-issued in full as follows, for year 1, 2, 3, 4 and 5. Items that are not required are indicated by a "hyphen (-)" in the "QTY" column of the pricing schedule.

(Continues on the following page)

ADDENDUM No. 2

PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

CONTRACT No: PWRT/2458/20/MP

C2.2 a) PRICING SCHEDULE - YEAR 1

PRICING SCHEDULE OF RATES

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1000	**RAMS SYSTEM IMPLEMENTATION**				
10,01	New RAMS System Installation	Sum	-		
10,02	Existing System Familiarisation	Person Hr.	80		
10,03	Existing System Upgrade	Person Hr.	480		
10,04	Assistance by the previous service provider	Prov. Sum	1	R1 000 000,00	
2000	**NETWORK INVENTORY**				
20,01	Create Road Network Information Module (RNIM)	Person Hr.	-		
20,02	Update RNIM	Person Hr.	480		
20,03	Create Bridge Inventory (BMS)	Person Hr.	-		
20,04	Update Bridge Inventory (BMS)	Person Hr.	320		
20,05	Create Borrow Pit Inventory (BPMS)	Person Hr.	480		
20,06	Update Borrow Pit Inventory	Person Hr.	-		
3000	**FIELD DATA ACQUISITION**				
30,01	**Establishment**				
30,01 a)	Traffic Speed Deflectometer Device (TSDD)	Sum	-		
30,01 b)	Falling Weight Deflectometer (FWD)	Sum	1		
30,01 c)	Digital Laser Profiler - Class 1 (Min. 15 lasers)	Sum	1		
30,01 d)	Digital Laser Profiler - Class 1 (Min. 3 lasers)	Sum	-		
30,01 e)	Response Type Road Roughness Meter - Class 3	Sum	1		
30,01 f)	Surface Friction Tester (automatic)	Sum	1		
30,01 g)	Portable Friction Tester (manual)	Sum	-		
30,01 h)	Walking Profiler or equivalent	Sum	-		
30,01 i)	Visual Assessment Personnel – Paved and Unpaved Roads	Sum	1		
30,02	**Traffic Control**				
30,02 a)	Falling Weight Deflectometer	Sum	1		
30,02 b)	Surface Profiling and Road Roughness Meter	Sum	1		
30,02 c)	Friction Measurement	Sum	1		
30,02 d)	Bridge / Major Culvert Inspections	Sum	1		
30,02 e)	Traffic Counting	Sum	1		
30,02 f)	Road Safety Assessments (IRAP or Similar)	Sum	1		
				TOTAL CARRIED FORWARD	

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
30,03	**Data Collection - Road Network**				
30,03 a)	Traffic Speed Deflectometer Device (TSDD) or similar	Lane.km	-		
30,03 b)	Automated Crack Detection	Lane.km	-		
30,03 c)	Geometry	Lane.km	5 500		
30,03 d)	Falling Weight Deflectometer (FWD)	Point	40 000		
30,03 e)	Continuous Digital Imaging (Standard)	Lane.km	-		
30,03 f)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
30,03 g)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
30,03 h)	IRI (International Roughness Index) – Class 3	Lane.km	-		
30,03 i)	Wheel path Rutting	Lane.km	4 000		
30,03 j)	Transverse Profile Rutting	Lane.km	4 000		
30,03 k)	Macro Texture	Lane.km	5 500		
30,03 l)	Surface Friction Testing (automatic)	Lane.km	5 500		
30,03 m)	Surface Friction Testing (portable)	Point	-		
30,03 n)	Response Type Roughness Meter - Class 3	Lane.km	8 363		
30,03 o)	Walking Profiler	Lane.km	-		
30,03 p)	Road Safety Assessments (IRAP or Similar)	Lane.km	14 000		
30,03 q)	Accident Statistics (17 Municipalities + 1 Summary Report)	Per Report	18		
30,04	**Data Collection - Structures**				
30,04 a)	Bridge Structures	Number	250		
30,04 b)	Major Culvert Structures	Number	150		
30,05	**Data Collection - Traffic**				
30,05 a)	Traffic Counts Automated	Number	15		
30,05 b)	Traffic Counts Manual	Person Hr.	35 000		
30,05 c)	Weight in Motion (WIM)	Prov.Sum	-		
30,06	**Data Collection - Borrow Pit Managament System** Appointment and field testing management of materials laboratory	Prov.Sum	1	R1 200 000,00	
4000	**DATA ANALYSIS / VERIFICATION**				
40,01	**Road Network**				
40,01 a)	Visual Condition (Including Paved (VCI) and unpaved (VGI) Output)	C'way.km	7 000		
40,01 b)	Traffic Speed Deflectometer Device (TSDD)	Lane.km	-		
40,01 c)	Automated Crack Detection	Lane.km	-		
40,01 d)	Geometry	Lane.km	5 500		
40,01 e)	Falling Weight Deflectometer (FWD)	Point	40 000		
40,01 f)	Continuous Digital Imaging (Standard)	Lane.km	-		
40,01 g)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
40,01 h)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
40,01 i)	IRI (International Roughness Index) – Class 3	Lane.km	-		
40,01 j)	Wheel path Rutting	Lane.km	4000		
40,01 k)	Transverse Profile Rutting	Lane.km	4000		
40,01 l)	Macro Texture	Lane.km	5500		
40,01 m)	Surface Friction Testing (automatic)	Lane.km	5500		
40,01 n)	Surface Friction Testing (portable)	Point	-		
40,01 o)	Response Type Roughness Meter - Class 3	Lane.km	8363		
40,01 p)	Walking Profiler	Lane.km	-		
40,01 q)	Road Safety Assessments (IRAP or Similar)	Lane.km	14000		
40,01 r)	Accident Data (17 Municipalities + 1 summary Report)	Per Report	18		
40,01 s)	Panel Inspection	Prov.Sum	1	R 150 000,00	
40,02	**Structures**				
40,02 a)	Bridge Structures	Number	250		
40,02 b)	Major Culvert Structures	Number	150		
40,03	**Traffic Analysis**	Sum	1		
40,04	**Borrow Pit Management System Laboratory results**	Prov.Sum	1	R 200 000,00	
5000	**REPORTING**				
50,01	Road Network				
50,01 a)	Flexible Surfaced Road Network	Sum	1		
50,01 b)	Unsurfaced Road Network	Sum	1		
50,01 c)	Rigid (Concrete) Road Network	Sum	1		
50,01 d)	Semi- Rigid (Block Paved) Road Network	Sum	1		
50,01 e)	Safety Assessment	Sum	1		
50,01 f)	Traffic Accidents	Sum	1		
50,02	Structures (Bridges and Major Culverts)	Sum	1		
50,03	Traffic	Sum	1		
50,04	Borrow Pit Management	Sum	1		
50,05	RAMS Asset Register / RAMP Report	Sum	1		
6000	**ADDITIONAL SERVICES**				
60,01	Attend Meetings	Person Hr.	120		
60,02 a)	Ad-hoc Support : Category A Staff	hour	-		rate only
60,02 b)	Ad-hoc Support : Category B Staff	hour	-		rate only
60,02 c)	Ad-hoc Support : Category C Staff	hour	-		rate only
60,02 d)	Ad-hoc Support : Category D Staff	hour	-		rate only
60,03	Strategic Support	Prov.Sum	1	R 480 000,00	
60,04	Training /Skills Transfer	Prov.Sum	1	R 480 000,00	
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
7000	**DISBURSEMENTS**				
70,01	Travel	km	15000		
70,02	Accommodation	Person.night	48		
70,03	Attendance of calibration and verification session by members of the Employer	Sum	1		
	TOTAL YEAR 1 CARRIED FORWARD TO SUMMARY				

ADDENDUM No. 2

PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

CONTRACT No: PWRT/2458/20/MP

C2.2 b) PRICING SCHEDULE - YEAR 2

PRICING SCHEDULE OF RATES

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1000	**RAMS SYSTEM IMPLEMENTATION**				
10,01	New RAMS System Installation	Sum	-		
10,02	Existing System Familiarisation	Person Hr.	80		
10,03	Existing System Upgrade	Person Hr.	480		
10,04	Assistance by the previous service provider	Prov. Sum	-		
2000	**NETWORK INVENTORY**				
20,01	Create Road Network Information Module (RNIM)	Person Hr.	-		
20,02	Update RNIM	Person Hr.	480		
20,03	Create Bridge Inventory (BMS)	Person Hr.	-		
20,04	Update Bridge Inventory (BMS)	Person Hr.	320		
20,05	Create Borrow Pit Inventory (BPMS)	Person Hr.	-		
20,06	Update Borrow Pit Inventory	Person Hr.	320		
3000	**FIELD DATA ACQUISITION**				
30,01	**Establishment**				
30,01 a)	Traffic Speed Deflectometer Device (TSDD)	Sum	-		
30,01 b)	Falling Weight Deflectometer (FWD)	Sum	-		
30,01 c)	Digital Laser Profiler - Class 1 (Min. 15 lasers)	Sum	1		
30,01 d)	Digital Laser Profiler - Class 1 (Min. 3 lasers)	Sum	-		
30,01 e)	Response Type Road Roughness Meter - Class 3	Sum	1		
30,01 f)	Surface Friction Tester (automatic)	Sum	1		
30,01 g)	Portable Friction Tester (manual)	Sum	-		
30,01 h)	Walking Profiler or equivalent	Sum	-		
30,01 i)	Visual Assessment Personnel – Paved and Unpaved Roads	Sum	1		
30,02	**Traffic Control**				
30,02 a)	Falling Weight Deflectometer	Sum	-		
30,02 b)	Surface Profiling and Road Roughness Meter	Sum	1		
30,02 c)	Friction Measurement	Sum	1		
30,02 d)	Bridge / Major Culvert Inspections	Sum	1		
30,02 e)	Traffic Counting	Sum	1		
30,02 f)	Road Safety Assessments (IRAP or Similar)	Sum	1		
			TOTAL CARRIED FORWARD		

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
30,03	**Data Collection - Road Network**				
30,03 a)	Traffic Speed Deflectometer Device (TSDD) or similar	Lane.km	-		
30,03 b)	Automated Crack Detection	Lane.km	-		
30,03 c)	Geometry	Lane.km	5 500		
30,03 d)	Falling Weight Deflectometer (FWD)	Point	-		
30,03 e)	Continuous Digital Imaging (Standard)	Lane.km	-		
30,03 f)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
30,03 g)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
30,03 h)	IRI (International Roughness Index) – Class 3	Lane.km	-		
30,03 i)	Wheel path Rutting	Lane.km	4 000		
30,03 j)	Transverse Profile Rutting	Lane.km	4 000		
30,03 k)	Macro Texture	Lane.km	5 500		
30,03 l)	Surface Friction Testing (automatic)	Lane.km	5 500		
30,03 m)	Surface Friction Testing (portable)	Point	-		
30,03 n)	Response Type Roughness Meter - Class 3	Lane.km	8 363		
30,03 o)	Walking Profiler	Lane.km	-		
30,03 p)	Road Safety Assessments (IRAP or Similar)	Lane.km	14 000		
30,03 q)	Accident Statistics (17 Municipalities + 1 Summary Report)	Per Report	18		
30,04	**Data Collection - Structures**				
30,04 a)	Bridge Structures	Number	250		
30,04 b)	Major Culvert Structures	Number	150		
30,05	**Data Collection - Traffic**				
30,05 a)	Traffic Counts Automated	Number	15		
30,05 b)	Traffic Counts Manual	Person Hr.	35 000		
30,05 c)	Weight in Motion (WIM)	Prov.Sum	-		
30,06	**Data Collection - Borrow Pit Managament System** Appointment and field testing management of materials laboratory	Prov.Sum	1	R1 200 000,00	
4000	**DATA ANALYSIS / VERIFICATION**				
40,01	**Road Network**				
40,01 a)	Visual Condition (Including Paved (VCI) and unpaved (VGI) Output)	C'way.km	7 000		
40,01 b)	Traffic Speed Deflectometer Device (TSDD)	Lane.km	-		
40,01 c)	Automated Crack Detection	Lane.km	-		
40,01 d)	Geometry	Lane.km	5 500		
40,01 e)	Falling Weight Deflectometer (FWD)	Point	-		
40,01 f)	Continuous Digital Imaging (Standard)	Lane.km	-		
40,01 g)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
40,01 h)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
40,01 i)	IRI (International Roughness Index) – Class 3	Lane.km	-		
40,01 j)	Wheel path Rutting	Lane.km	4000		
40,01 k)	Transverse Profile Rutting	Lane.km	4000		
40,01 l)	Macro Texture	Lane.km	5500		
40,01 m)	Surface Friction Testing (automatic)	Lane.km	5500		
40,01 n)	Surface Friction Testing (portable)	Point	-		
40,01 o)	Response Type Roughness Meter - Class 3	Lane.km	8363		
40,01 p)	Walking Profiler	Lane.km	-		
40,01 q)	Road Safety Assessments (IRAP or Similar)	Lane.km	14000		
40,01 r)	Accident Data (17 Municipalities + 1 summary Report)	Per Report	18		
40,01 s)	Panel Inspection	Prov.Sum	1	R 150 000,00	
40,02	**Structures**				
40,02 a)	Bridge Structures	Number	250		
40,02 b)	Major Culvert Structures	Number	150		
40,03	**Traffic Analysis**	Sum	1		
40,04	**Borrow Pit Management System Laboratory results**	Prov.Sum	1	R 200 000,00	
5000	**REPORTING**				
50,01	Road Network				
50,01 a)	Flexible Surfaced Road Network	Sum	1		
50,01 b)	Unsurfaced Road Network	Sum	1		
50,01 c)	Rigid (Concrete) Road Network	Sum	1		
50,01 d)	Semi- Rigid (Block Paved) Road Network	Sum	1		
50,01 e)	Safety Assessment	Sum	1		
50,01 f)	Traffic Accidents	Sum	1		
50,02	Structures (Bridges and Major Culverts)	Sum	1		
50,03	Traffic	Sum	1		
50,04	Borrow Pit Management	Sum	1		
50,05	RAMS Asset Register / RAMP Report	Sum	1		
6000	**ADDITIONAL SERVICES**				
60,01	Attend Meetings	Person Hr.	120		
60,02 a)	Ad-hoc Support : Category A Staff	hour	-		rate only
60,02 b)	Ad-hoc Support : Category B Staff	hour	-		rate only
60,02 c)	Ad-hoc Support : Category C Staff	hour	-		rate only
60,02 d)	Ad-hoc Support : Category D Staff	hour	-		rate only
60,03	Strategic Support	Prov.Sum	1	R 480 000,00	
60,04	Training /Skills Transfer	Prov.Sum	1	R 480 000,00	
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
7000	**DISBURSEMENTS**				
70,01	Travel	km	15000		
70,02	Accommodation	Person.night	48		
70,03	Attendance of calibration and verification session by members of the Employer	Sum	1		
	TOTAL YEAR 2 CARRIED FORWARD TO SUMMARY				

ADDENDUM No. 2

PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

CONTRACT No: PWRT/2458/20/MP

C2.2 c) PRICING SCHEDULE - YEAR 3

PRICING SCHEDULE OF RATES

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1000	**RAMS SYSTEM IMPLEMENTATION**				
10,01	New RAMS System Installation	Sum	-		
10,02	Existing System Familiarisation	Person Hr.	80		
10,03	Existing System Upgrade	Person Hr.	480		
10,04	Assistance by the previous service provider	Prov. Sum	-		
2000	**NETWORK INVENTORY**				
20,01	Create Road Network Information Module (RNIM)	Person Hr.	-		
20,02	Update RNIM	Person Hr.	480		
20,03	Create Bridge Inventory (BMS)	Person Hr.	-		
20,04	Update Bridge Inventory (BMS)	Person Hr.	320		
20,05	Create Borrow Pit Inventory (BPMS)	Person Hr.	-		
20,06	Update Borrow Pit Inventory	Person Hr.	320		
3000	**FIELD DATA ACQUISITION**				
30,01	**Establishment**				
30,01 a)	Traffic Speed Deflectometer Device (TSDD)	Sum	-		
30,01 b)	Falling Weight Deflectometer (FWD)	Sum	-		
30,01 c)	Digital Laser Profiler - Class 1 (Min. 15 lasers)	Sum	1		
30,01 d)	Digital Laser Profiler - Class 1 (Min. 3 lasers)	Sum	-		
30,01 e)	Response Type Road Roughness Meter - Class 3	Sum	1		
30,01 f)	Surface Friction Tester (automatic)	Sum	1		
30,01 g)	Portable Friction Tester (manual)	Sum	-		
30,01 h)	Walking Profiler or equivalent	Sum	-		
30,01 i)	Visual Assessment Personnel – Paved and Unpaved Roads	Sum	1		
30,02	**Traffic Control**				
30,02 a)	Falling Weight Deflectometer	Sum	-		
30,02 b)	Surface Profiling and Road Roughness Meter	Sum	1		
30,02 c)	Friction Measurement	Sum	1		
30,02 d)	Bridge / Major Culvert Inspections	Sum	1		
30,02 e)	Traffic Counting	Sum	1		
30,02 f)	Road Safety Assessments (IRAP or Similar)	Sum	1		
				TOTAL CARRIED FORWARD	

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
30,03	**Data Collection - Road Network**				
30,03 a)	Traffic Speed Deflectometer Device (TSDD) or similar	Lane.km	-		
30,03 b)	Automated Crack Detection	Lane.km	-		
30,03 c)	Geometry	Lane.km	5 500		
30,03 d)	Falling Weight Deflectometer (FWD)	Point	-		
30,03 e)	Continuous Digital Imaging (Standard)	Lane.km	-		
30,03 f)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
30,03 g)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
30,03 h)	IRI (International Roughness Index) – Class 3	Lane.km	-		
30,03 i)	Wheel path Rutting	Lane.km	4 000		
30,03 j)	Transverse Profile Rutting	Lane.km	4 000		
30,03 k)	Macro Texture	Lane.km	5 500		
30,03 l)	Surface Friction Testing (automatic)	Lane.km	5 500		
30,03 m)	Surface Friction Testing (portable)	Point	-		
30,03 n)	Response Type Roughness Meter - Class 3	Lane.km	8 363		
30,03 o)	Walking Profiler	Lane.km	-		
30,03 p)	Road Safety Assessments (IRAP or Similar)	Lane.km	14 000		
30,03 q)	Accident Statistics (17 Municipalities + 1 Summary Report)	Per Report	18		
30,04	**Data Collection - Structures**				
30,04 a)	Bridge Structures	Number	150		
30,04 b)	Major Culvert Structures	Number	100		
30,05	**Data Collection - Traffic**				
30,05 a)	Traffic Counts Automated	Number	15		
30,05 b)	Traffic Counts Manual	Person Hr.	35 000		
30,05 c)	Weight in Motion (WIM)	Prov.Sum	-		
30,06	**Data Collection - Borrow Pit Managament System** Appointment and field testing management of materials laboratory	Prov.Sum	1	R1 200 000,00	
4000	**DATA ANALYSIS / VERIFICATION**				
40,01	**Road Network**				
40,01 a)	Visual Condition (Including Paved (VCI) and unpaved (VGI) Output)	C'way.km	7 000		
40,01 b)	Traffic Speed Deflectometer Device (TSDD)	Lane.km	-		
40,01 c)	Automated Crack Detection	Lane.km	-		
40,01 d)	Geometry	Lane.km	5 500		
40,01 e)	Falling Weight Deflectometer (FWD)	Point	-		
40,01 f)	Continuous Digital Imaging (Standard)	Lane.km	-		
40,01 g)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
40,01 h)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
40,01 i)	IRI (International Roughness Index) – Class 3	Lane.km	-		
40,01 j)	Wheel path Rutting	Lane.km	4000		
40,01 k)	Transverse Profile Rutting	Lane.km	4000		
40,01 l)	Macro Texture	Lane.km	5500		
40,01 m)	Surface Friction Testing (automatic)	Lane.km	5500		
40,01 n)	Surface Friction Testing (portable)	Point	-		
40,01 o)	Response Type Roughness Meter - Class 3	Lane.km	8363		
40,01 p)	Walking Profiler	Lane.km	-		
40,01 q)	Road Safety Assessments (IRAP or Similar)	Lane.km	14000		
40,01 r)	Accident Data (17 Municipalities + 1 summary Report)	Per Report	18		
40,01 s)	Panel Inspection	Prov.Sum	1	R 150 000,00	
40,02	**Structures**				
40,02 a)	Bridge Structures	Number	150		
40,02 b)	Major Culvert Structures	Number	100		
40,03	**Traffic Analysis**	Sum	1		
40,04	**Borrow Pit Management System Laboratory results**	Prov.Sum	1	R 200 000,00	
5000	**REPORTING**				
50,01	Road Network				
50,01 a)	Flexible Surfaced Road Network	Sum	1		
50,01 b)	Unsurfaced Road Network	Sum	1		
50,01 c)	Rigid (Concrete) Road Network	Sum	1		
50,01 d)	Semi- Rigid (Block Paved) Road Network	Sum	1		
50,01 e)	Safety Assessment	Sum	1		
50,01 f)	Traffic Accidents	Sum	1		
50,02	Structures (Bridges and Major Culverts)	Sum	1		
50,03	Traffic	Sum	1		
50,04	Borrow Pit Management	Sum	1		
50,05	RAMS Asset Register / RAMP Report	Sum	1		
6000	**ADDITIONAL SERVICES**				
60,01	Attend Meetings	Person Hr.	120		
60,02 a)	Ad-hoc Support : Category A Staff	hour	-		rate only
60,02 b)	Ad-hoc Support : Category B Staff	hour	-		rate only
60,02 c)	Ad-hoc Support : Category C Staff	hour	-		rate only
60,02 d)	Ad-hoc Support : Category D Staff	hour	-		rate only
60,03	Strategic Support	Prov.Sum	1	R 480 000,00	
60,04	Training /Skills Transfer	Prov.Sum	1	R 480 000,00	
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
7000	**DISBURSEMENTS**				
70,01	Travel	km	15000		
70,02	Accommodation	Person.night	48		
70.03	Attendance of calibration and verification session by members of the Employer	Sum	1		
	TOTAL YEAR 3 CARRIED FORWARD TO SUMMARY				

ADDENDUM No. 2

PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

CONTRACT No: PWRT/2458/20/MP

C2.2 d) PRICING SCHEDULE - YEAR 4

PRICING SCHEDULE OF RATES

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1000	**RAMS SYSTEM IMPLEMENTATION**				
10,01	New RAMS System Installation	Sum	-		
10,02	Existing System Familiarisation	Person Hr.	80		
10,03	Existing System Upgrade	Person Hr.	480		
10,04	Assistance by the previous service provider	Prov. Sum	-		
2000	**NETWORK INVENTORY**				
20,01	Create Road Network Information Module (RNIM)	Person Hr.	-		
20,02	Update RNIM	Person Hr.	480		
20,03	Create Bridge Inventory (BMS)	Person Hr.	-		
20,04	Update Bridge Inventory (BMS)	Person Hr.	320		
20,05	Create Borrow Pit Inventory (BPMS)	Person Hr.	-		
20,06	Update Borrow Pit Inventory	Person Hr.	320		
3000	**FIELD DATA ACQUISITION**				
30,01	**Establishment**				
30,01 a)	Traffic Speed Deflectometer Device (TSDD)	Sum	-		
30,01 b)	Falling Weight Deflectometer (FWD)	Sum	1		
30,01 c)	Digital Laser Profiler - Class 1 (Min. 15 lasers)	Sum	1		
30,01 d)	Digital Laser Profiler - Class 1 (Min. 3 lasers)	Sum	-		
30,01 e)	Response Type Road Roughness Meter - Class 3	Sum	1		
30,01 f)	Surface Friction Tester (automatic)	Sum	1		
30,01 g)	Portable Friction Tester (manual)	Sum	-		
30,01 h)	Walking Profiler or equivalent	Sum	-		
30,01 i)	Visual Assessment Personnel – Paved and Unpaved Roads	Sum	1		
30,02	**Traffic Control**				
30,02 a)	Falling Weight Deflectometer	Sum	1		
30,02 b)	Surface Profiling and Road Roughness Meter	Sum	1		
30,02 c)	Friction Measurement	Sum	1		
30,02 d)	Bridge / Major Culvert Inspections	Sum	1		
30,02 e)	Traffic Counting	Sum	1		
30,02 f)	Road Safety Assessments (IRAP or Similar)	Sum	1		
			TOTAL CARRIED FORWARD		

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
30,03	**Data Collection - Road Network**				
30,03 a)	Traffic Speed Deflectometer Device (TSDD) or similar	Lane.km	-		
30,03 b)	Automated Crack Detection	Lane.km	-		
30,03 c)	Geometry	Lane.km	5 500		
30,03 d)	Falling Weight Deflectometer (FWD)	Point	40 000		
30,03 e)	Continuous Digital Imaging (Standard)	Lane.km	-		
30,03 f)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
30,03 g)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
30,03 h)	IRI (International Roughness Index) – Class 3	Lane.km	-		
30,03 i)	Wheel path Rutting	Lane.km	4 000		
30,03 j)	Transverse Profile Rutting	Lane.km	4 000		
30,03 k)	Macro Texture	Lane.km	5 500		
30,03 l)	Surface Friction Testing (automatic)	Lane.km	5 500		
30,03 m)	Surface Friction Testing (portable)	Point	-		
30,03 n)	Response Type Roughness Meter - Class 3	Lane.km	8 363		
30,03 o)	Walking Profiler	Lane.km	-		
30,03 p)	Road Safety Assessments (IRAP or Similar)	Lane.km	14 000		
30,03 q)	Accident Statistics (17 Municipalities + 1 Summary Report)	Per Report	18		
30,04	**Data Collection - Structures**				
30,04 a)	Bridge Structures	Number	100		
30,04 b)	Major Culvert Structures	Number	75		
30,05	**Data Collection - Traffic**				
30,05 a)	Traffic Counts Automated	Number	15		
30,05 b)	Traffic Counts Manual	Person Hr.	35 000		
30,05 c)	Weight in Motion (WIM)	Prov.Sum	-		
30,06	**Data Collection - Borrow Pit Managament System** Appointment and field testing management of materials laboratory	Prov.Sum	1	R1 200 000,00	
4000	**DATA ANALYSIS / VERIFICATION**				
40,01	**Road Network**				
40,01 a)	Visual Condition (Including Paved (VCI) and unpaved (VGI) Output)	C'way.km	7 000		
40,01 b)	Traffic Speed Deflectometer Device (TSDD)	Lane.km	-		
40,01 c)	Automated Crack Detection	Lane.km	-		
40,01 d)	Geometry	Lane.km	5 500		
40,01 e)	Falling Weight Deflectometer (FWD)	Point	40 000		
40,01 f)	Continuous Digital Imaging (Standard)	Lane.km	-		
40,01 g)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
40,01 h)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
40,01 i)	IRI (International Roughness Index) – Class 3	Lane.km	-		
40,01 j)	Wheel path Rutting	Lane.km	4000		
40,01 k)	Transverse Profile Rutting	Lane.km	4000		
40,01 l)	Macro Texture	Lane.km	5500		
40,01 m)	Surface Friction Testing (automatic)	Lane.km	5500		
40,01 n)	Surface Friction Testing (portable)	Point	-		
40,01 o)	Response Type Roughness Meter - Class 3	Lane.km	8363		
40,01 p)	Walking Profiler	Lane.km	-		
40,01 q)	Road Safety Assessments (IRAP or Similar)	Lane.km	14000		
40,01 r)	Accident Data (17 Municipalities + 1 summary Report)	Per Report	18		
40,01 s)	Panel Inspection	Prov.Sum	1	R 150 000,00	
40,02	**Structures**				
40,02 a)	Bridge Structures	Number	100		
40,02 b)	Major Culvert Structures	Number	75		
40,03	**Traffic Analysis**	Sum	1		
40,04	**Borrow Pit Management System Laboratory results**	Prov.Sum	1	R 200 000,00	
5000	**REPORTING**				
50,01	**Road Network**				
50,01 a)	Flexible Surfaced Road Network	Sum	1		
50,01 b)	Unsurfaced Road Network	Sum	1		
50,01 c)	Rigid (Concrete) Road Network	Sum	1		
50,01 d)	Semi- Rigid (Block Paved) Road Network	Sum	1		
50,01 e)	Safety Assessment	Sum	1		
50,01 f)	Traffic Accidents	Sum	1		
50,02	**Structures (Bridges and Major Culverts)**	Sum	1		
50,03	Traffic	Sum	1		
50,04	Borrow Pit Management	Sum	1		
50,05	RAMS Asset Register / RAMP Report	Sum	1		
6000	**ADDITIONAL SERVICES**				
60,01	Attend Meetings	Person Hr.	120		
60,02 a)	Ad-hoc Support : Category A Staff	hour	-		rate only
60,02 b)	Ad-hoc Support : Category B Staff	hour	-		rate only
60,02 c)	Ad-hoc Support : Category C Staff	hour	-		rate only
60,02 d)	Ad-hoc Support : Category D Staff	hour	-		rate only
60,03	Strategic Support	Prov.Sum	1	R 480 000,00	
60,04	Training /Skills Transfer	Prov.Sum	1	R 480 000,00	
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
7000	**DISBURSEMENTS**				
70,01	Travel	km	15000		
70,02	Accommodation	Person.night	48		
70,03	Attendance of calibration and verification session by members of the Employer	Sum	1		
	TOTAL YEAR 4 CARRIED FORWARD TO SUMMARY				

ADDENDUM No. 2

PROFESSIONAL SERVICES FOR THE MANAGEMENT OF THE ROAD ASSET MANAGEMENT SYSTEM AND OPERATIONAL REQUIREMENTS, FOR THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT, MPUMALANGA PROVINCE FOR A PERIOD OF FIVE (5) YEARS

CONTRACT No: PWRT/2458/20/MP

C2.2 e) PRICING SCHEDULE - YEAR 5

PRICING SCHEDULE OF RATES

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1000	**RAMS SYSTEM IMPLEMENTATION**				
10,01	New RAMS System Installation	Sum	-		
10,02	Existing System Familiarisation	Person Hr.	80		
10,03	Existing System Upgrade	Person Hr.	480		
10,04	Assistance by the previous service provider	Prov. Sum	-		
2000	**NETWORK INVENTORY**				
20,01	Create Road Network Information Module (RNIM)	Person Hr.	-		
20,02	Update RNIM	Person Hr.	480		
20,03	Create Bridge Inventory (BMS)	Person Hr.	-		
20,04	Update Bridge Inventory (BMS)	Person Hr.	320		
20,05	Create Borrow Pit Inventory (BPMS)	Person Hr.	-		
20,06	Update Borrow Pit Inventory	Person Hr.	320		
3000	**FIELD DATA ACQUISITION**				
30,01	**Establishment**				
30,01 a)	Traffic Speed Deflectometer Device (TSDD)	Sum	-		
30,01 b)	Falling Weight Deflectometer (FWD)	Sum	-		
30,01 c)	Digital Laser Profiler - Class 1 (Min. 15 lasers)	Sum	1		
30,01 d)	Digital Laser Profiler - Class 1 (Min. 3 lasers)	Sum	-		
30,01 e)	Response Type Road Roughness Meter - Class 3	Sum	1		
30,01 f)	Surface Friction Tester (automatic)	Sum	1		
30,01 g)	Portable Friction Tester (manual)	Sum	-		
30,01 h)	Walking Profiler or equivalent	Sum	-		
30,01 i)	Visual Assessment Personnel – Paved and Unpaved Roads	Sum	1		
30,02	**Traffic Control**				
30,02 a)	Falling Weight Deflectometer	Sum	-		
30,02 b)	Surface Profiling and Road Roughness Meter	Sum	1		
30,02 c)	Friction Measurement	Sum	1		
30,02 d)	Bridge / Major Culvert Inspections	Sum	1		
30,02 e)	Traffic Counting	Sum	1		
30,02 f)	Road Safety Assessments (IRAP or Similar)	Sum	1		
				TOTAL CARRIED FORWARD	

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
30,03	**Data Collection - Road Network**				
30,03 a)	Traffic Speed Deflectometer Device (TSDD) or similar	Lane.km	-		
30,03 b)	Automated Crack Detection	Lane.km	-		
30,03 c)	Geometry	Lane.km	5 500		
30,03 d)	Falling Weight Deflectometer (FWD)	Point	-		
30,03 e)	Continuous Digital Imaging (Standard)	Lane.km	-		
30,03 f)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
30,03 g)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
30,03 h)	IRI (International Roughness Index) – Class 3	Lane.km	-		
30,03 i)	Wheel path Rutting	Lane.km	4 000		
30,03 j)	Transverse Profile Rutting	Lane.km	4 000		
30,03 k)	Macro Texture	Lane.km	5 500		
30,03 l)	Surface Friction Testing (automatic)	Lane.km	5 500		
30,03 m)	Surface Friction Testing (portable)	Point	-		
30,03 n)	Response Type Roughness Meter - Class 3	Lane.km	8 363		
30,03 o)	Walking Profiler	Lane.km	-		
30,03 p)	Road Safety Assessments (IRAP or Similar)	Lane.km	14 000		
30,03 q)	Accident Statistics (17 Municipalities + 1 Summary Report)	Per Report	18		
30,04	**Data Collection - Structures**				
30,04 a)	Bridge Structures	Number	100		
30,04 b)	Major Culvert Structures	Number	75		
30,05	**Data Collection - Traffic**				
30,05 a)	Traffic Counts Automated	Number	15		
30,05 b)	Traffic Counts Manual	Person Hr.	35 000		
30,05 c)	Weight in Motion (WIM)	Prov.Sum	-		
30,06	**Data Collection - Borrow Pit Managament System** Appointment and field testing management of materials laboratory	Prov.Sum	1	R1 200 000,00	
4000	**DATA ANALYSIS / VERIFICATION**				
40,01	**Road Network**				
40,01 a)	Visual Condition (Including Paved (VCI) and unpaved (VGI) Output)	C'way.km	7 000		
40,01 b)	Traffic Speed Deflectometer Device (TSDD)	Lane.km	-		
40,01 c)	Automated Crack Detection	Lane.km	-		
40,01 d)	Geometry	Lane.km	5 500		
40,01 e)	Falling Weight Deflectometer (FWD)	Point	-		
40,01 f)	Continuous Digital Imaging (Standard)	Lane.km	-		
40,01 g)	Continuous Digital Imaging (Quantitative)	Lane.km	5 500		
40,01 h)	IRI (International Roughness Index) – Class 1	Lane.km	5 500		
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
40,01 i)	IRI (International Roughness Index) – Class 3	Lane.km	-		
40,01 j)	Wheel path Rutting	Lane.km	4000		
40,01 k)	Transverse Profile Rutting	Lane.km	4000		
40,01 l)	Macro Texture	Lane.km	5500		
40,01 m)	Surface Friction Testing (automatic)	Lane.km	5500		
40,01 n)	Surface Friction Testing (portable)	Point	-		
40,01 o)	Response Type Roughness Meter - Class 3	Lane.km	8363		
40,01 p)	Walking Profiler	Lane.km	-		
40,01 q)	Road Safety Assessments (IRAP or Similar)	Lane.km	14000		
40,01 r)	Accident Data (17 Municipalities + 1 summary Report)	Per Report	18		
40,01 s)	Panel Inspection	Prov.Sum	1	R 150 000,00	
40,02	**Structures**				
40,02 a)	Bridge Structures	Number	100		
40,02 b)	Major Culvert Structures	Number	75		
40,03	**Traffic Analysis**	Sum	1		
40,04	**Borrow Pit Management System Laboratory results**	Prov.Sum	1	R 200 000,00	
5000	**REPORTING**				
50,01	**Road Network**				
50,01 a)	Flexible Surfaced Road Network	Sum	1		
50,01 b)	Unsurfaced Road Network	Sum	1		
50,01 c)	Rigid (Concrete) Road Network	Sum	1		
50,01 d)	Semi- Rigid (Block Paved) Road Network	Sum	1		
50,01 e)	Safety Assessment	Sum	1		
50,01 f)	Traffic Accidents	Sum	1		
50,02	**Structures (Bridges and Major Culverts)**	Sum	1		
50,03	Traffic	Sum	1		
50,04	Borrow Pit Management	Sum	1		
50,05	RAMS Asset Register / RAMP Report	Sum	1		
6000	**ADDITIONAL SERVICES**				
60,01	Attend Meetings	Person Hr.	120		
60,02 a)	Ad-hoc Support : Category A Staff	hour	-		rate only
60,02 b)	Ad-hoc Support : Category B Staff	hour	-		rate only
60,02 c)	Ad-hoc Support : Category C Staff	hour	-		rate only
60,02 d)	Ad-hoc Support : Category D Staff	hour	-		rate only
60,03	Strategic Support	Prov.Sum	1	R 480 000,00	
60,04	Training /Skills Transfer	Prov.Sum	1	R 480 000,00	
	TOTAL CARRIED FORWARD				

ITEM NO.		UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
7000	**DISBURSEMENTS**				
70,01	Travel	km	15000		
70,02	Accommodation	Person.night	48		
70,03	Attendance of calibration and verification session by members of the Employer	Sum	1		
	TOTAL YEAR 5 CARRIED FORWARD TO SUMMARY				

2.3 PART C3 SCOPE OF WORKS

2.3.1 C3.1: PROJECT DESCRIPTION

2.3.1.1 C3.1.2 Services overview

(a) On page C-26, **delete** "Deflection (TSSD)" and "Automated Crack Detection" as follows (single strikethrough), with the remainder of the services remaining as it is on page C-26 and page C-27 of the Tender document:

- Field Data Acquisition Establishment; Traffic Management; and Automated Data Collection of
  - ~~Deflection (TSDD)~~
  - Deflection (FWD)
  - ~~Automated Crack Detection~~
  - Geometry (Longitudinal and Transverse)
  - Imaging
  - Riding Quality
  - Rut Depth
  - Texture
  - Friction
  - Provide System support and maintenance

2.3.1.2 Table C3.1.4.1: Extent of the Road Network per Pavement Type

(a) On page C-28, **change** the quantities in the "Single carriageway lane kilometres" and "Dual carriageway Lane kilometres" columns to read as follows:

PAVEMENT TYPE	CARRIAGEWAY KILOMETRES	SINGLE CARRIAGEWAY LANE KILOMETRES	DUAL CARRIAGEWAY LANE KILOMETRES
Flexible Surfaced	5474	10900	48
Concrete Surfaced (Rigid)	5	10	-
Block Paved (Semi-Rigid)	TBC	TBC	-
Unsurfaced (Gravel or Earth)	8363	16726	-

(b) On page C-28, **delete** "+/- 27 676 carriageway kilometres" and replace with "+/- 27 676 lane kilometres"

2.2.1.3 C3.1.6 Employers Preliminary Works schedule

(a) On page C-30, **amend** the preliminary schedule of works to read as follows:

The Employer has identified a preliminary annual schedule of works as follows:

Year 1: 50% of Total Network and 50% of Structures

Year 2: 50% of Total Network and 50% of Structures

Year 3: 50% of Total Network and 50% of Structures

Year 4: 50% of Total Network and 50% of Structures

Year 5: 50% of Total Network and 50% of Structures

2.3.1.4 1000: RAMS SYSTEM IMPLEMENTATION

(a) On page C-30 and C-31, **delete** the item "10.01: New RAMS System Installation" as follows:

~~**10.01 : New RAMS System Installation**~~

~~The RAMS will be an operation level **ii** - compliant system as defined in COTO TMH 22 document and consist of an integrated set of information and decision sub-systems. The system data is to be contained in a SQL Server database with shapefiles that link each road segment via unique segment ID's. A web-based system is required to view and query the data.~~

~~The following sub-systems are a minimum requirement for the RAMS~~

~~**Road Network Information Module (RNIM) / Geographic Information System (GIS)**~~

~~This is the critical component of the overall system. This sub-system is to be GIS (ArcGIS or similar) linked / synchronized and will contain essential inventory data such as road logs, with roads broken down into links and segments. The links are described road category, start and end descriptions and distance, road width, surface type etc. Updating~~

~~The GIS will also be used to display information from the other support sub-systems.~~

~~**Pavement Management System (PMS)**~~

~~The PMS includes various data viewing, data capture and reporting modules for all visual and other pavement data collected on flexible surfaced, concrete surfaced, block paved and un-surfaced roads.~~

~~The PMS is to include a data capture and verification module for the "post rating" of visual assessment data acquired by automated surveillance equipment and, in addition, a module to deterioration modelling, undertake prioritization and optimization analysis together with the development of works programmes and multi-year budgets is required. Should the analysis module not be an integral facet of the PMS, the system must be capable of generating data that can be exported to proprietary analysis software such as dTIMS or HDM4.~~

~~All historic and current visual condition assessment and instrument (deflection, riding quality, profiling measurements etc) data together with road furniture such as guardrails, kerbs, drainage, signage etc, is to be stored in the PMS data tables.~~

~~**Traffic Information Management System (TIMS)**~~

~~This information system contains data from manual traffic and automated electronic traffic counts. The TIMS will act as a repository for all traffic data and will have both viewing and data querying capability to calculate current and future traffic volumes, cumulative axle loading etc as required by the PMS and BMS.~~

~~**Borrow Pit Materials Management System (BPMMS)**~~

~~The BPMMS sub-system is intended to contain all pertinent data relating to the opening, operating and rehabilitating of gravel borrow pits. In addition, the module must be capable of storing and calculating laboratory test data and maintaining a dynamic record of gravel usage and quantity~~

~~**Bridge Management System (BMS)**~~

~~Unless the system has an integral BMS, the Struman BMS is preferred choice for proprietary software. Whichever system is used, it must be capable of producing statistics on the bridge and major culvert inventory, condition, deterioration trends and priorities together with generating bridge and major culvert maintenance schedules and multi-year budgets. Assessments are to be carried out as per the requirements of COTO TMH 19 document~~

~~**Construction Record Management System (CRMS)**~~

~~The RAMS system must contain a module for storing construction "as built" records together with~~

~~detailed road maintenance/rehabilitation expenditure information~~

~~**Asset Management Reporting System (AMRS)**~~

~~The RAMS system must comply with all the requirements of the COTO framework for asset management (applicable to the required RAMS operation level) and be fully GRAP 17 compliant in terms of being able to produce standard and user defined asset valuation reports as well as a detailed roads infrastructure asset register.~~

~~**Road Safety Management System (RSMS)**~~

~~The RAMS system must either include a road safety assessment / analysis / reporting module or be able to interact with a proprietary system such as IRAP.~~

~~**Reporting Format**~~

~~The RAMS system must comply with all the requirements of the COTO framework for data formats - TMH 18 requirements.~~

~~**General**~~

~~The rate tendered for the provision of a new RAMS system inclusive of the above modules and requirements will be a Lump Sum and shall include all software development and purchase costs, end-user licensing and technical support for the duration of the contract, and all labour, materials, travel, equipment, disbursements and necessary to provide and install a fully functional system.~~

2.3.1.5 3000: FIELD DATA ACQUISITION

(a) On page C-34, **delete** the item "30.01 a): Traffic Speed Deflectometer Device (TSSD)" as follows:

~~**30.01 a) : Traffic Speed Deflectometer Device (TSDD)**~~

~~The rate tendered to establish the Traffic Speed Deflectometer Device will be a Lump Sum and shall include all costs for labour, materials, equipment, travel, disbursements, and other necessary items to establish the equipment on site. The amount will be paid once only following establishment of the equipment.~~

(b) On page C-35, **delete** the item "30.01 h): Walking Profiler" as follows:

~~**30.01 h) : Walking Profiler**~~

~~The rate tendered to establish the Walking Profiler (ARRB G3 or similar approved) will be a Lump Sum and shall include all costs for labour, materials, equipment, travel, disbursements, and other necessary items to establish the equipment on site. The amount will be paid once only following establishment of the equipment~~

(c) On page C-37, **delete** the items "30.03 a): Traffic Speed Deflectometer Device (TSSD)" and "30.03 b): Automated Crack Detection" as follows:

~~**30.03 a) : Traffic Speed Deflectometer Device (TSDD)**~~

~~The undertaking of continuous deflection measurements utilizing a Traffic Speed Deflectometer Device (TSDD) is to be carried out as directed. The TSDD is to be equipped with positioning system(s) meeting the requirements of Draft TMH 13 Part B.~~

~~The unit of measurement to undertake this testing will be a Lane.Km and shall include all costs for labour, materials, equipment, taking the continuous deflection measurements, quality plan, control testing, calibration and verification costs and all other necessary actions to undertake this task.~~

~~**30.03 b) : Automated Crack Detection**~~

~~Automated crack detection imaging is to be undertaken as directed. This task is to be undertaken strictly in accordance with the requirements of the Draft TMH13 Part G document. The imaging system utilized is not restricted, but "scaled frame" is a minimum requirement with "range imaging"~~

~~methods being preferred.~~

~~The measurement of crack detection will preferably be integrated and synchronized with the collection of other data (with TSDD survey for example), but if a "stand alone" vehicle is used, the positioning system is to comply with the requirements of Draft TMH 13 Part B.~~

~~The unit of measurement to undertake this testing will be a Lane.Km and shall include all costs for labour, materials, equipment, taking the continuous images, quality management, control testing, calibration and verification costs together with other necessary items to undertake this task.~~

(d) On page C-40, **delete** the item "30.03 o): Walking Profiler" as follows:

~~**30.03 o) : Walking Profiler**~~

~~The measurement of riding quality using a walking profiler – ARRB Walking Profiler or similar approved, is only to be undertaken as directed by the Employer.~~

~~The unit of measurement to undertake this testing will be a Lane.Km and shall include all costs for labour, materials, equipment and measuring the profile as per standard test method. Travel costs in excess of 50km and other subsistence costs – pre-approved by the Employer – are to be claimed under the appropriate pay item in Section 7000 of the Pricing Schedule of Rates~~

2.3.1.6 4000: DATA ANALYSIS / VERIFICATION

(a) On page C-42, **delete** the item "40.01 b): Traffic Speed Deflectometer Device (TSDD)" as follows:

~~**40.01 b) : Traffic Speed Deflectometer Device (TSDD)**~~

~~Both normalized and raw deflection bowl data is to be captured to the RAMS within 4 weeks of completing the field work. Prior to the data capture, the service provider's RAMS pavement engineer will undertake data integrity checks including, but not limited to:~~

~~a) Positioning checks~~

~~b) Check for non-decreasing deflections, ie deflections do not decrease as distance from the load increases~~

~~c) Out of range deflections~~

~~d) Integrity check on inventory data, ie positive and negative direction corresponds to GPS~~

~~e) Cross check comparatively high (+97 percentile) and low (-3 percentile) with the other data for the same (or closest) position eg, visual condition images, crack detection, rutting etc~~

~~The checks above are to be done on the 10m deflections and any "outlier" deflection bowls are to be discarded prior to the uploading of the data at 50m spacing. Once the service provider's RAMS pavement engineer is satisfied with the data integrity he/she will issue a data verification certificate. Deflection data is to be issued in excel format inclusive of required normalization(s), deflection bowl parameters and structural number calculations~~

~~The unit of measurement to undertake the data analysis/verification is a Lane.Km and shall include all costs for labour, materials, equipment, capture and verification of the continuous deflection data, quality management, and all other necessary actions to undertake this task.~~

(b) On page C-43, **delete** the item "40.01 c): Automated Crack Detection (ACD)" as follows:

~~**40.01 c) : Automated Crack Detection (ACD)**~~

~~Automated crack detection imaging and raw data files are to be uploaded to the RAMS within 4 weeks of completing the fieldwork. Prior to the data being captured, the service provider's RAMS pavement engineer will undertake data integrity checks including, but not limited to:~~

~~a) Inventory data, ie positive and negative direction corresponds to GPS~~

~~b) Compare random selection (+/- 5%) of crack data with the visual condition as derived under 40.01 a)~~

~~c) Check for "false positives"~~

~~d) Logical checks~~

~~Once the service provider's RAMS pavement engineer is satisfied with the data integrity he/she will issue a data verification certificate.~~

~~The unit of measurement to undertake the data analysis/verification is a Lane.Km and shall include all costs for labour, materials, equipment, capture and verification of the automated crack detection data, quality management, and all other necessary actions to undertake this task.~~

(c) On page C-48, **delete** the item "40.01 p): Walking Profiler" as follows:

~~**40.01 p): Walking Profiler**~~

~~If profiling using a walking profiler is undertaken this is to be captured to the RAMS within 4 weeks of the testing being undertaken.~~

~~The unit of measurement will be a Lane.Km and shall include all costs for labour, materials, equipment and capturing the profile data as required~~

(d) On page C-49, **amend** paragraph 4 of item "40.01 s): Panel Inspections" to read as follows:

The unit of measurement for taking part in panel inspections will be a Provincial Sum and will include all labour, material, equipment and disbursement costs including the provision of a 10 seat minibus for maximum of 5 days. Should overnight accommodation and subsistence be required (pre-approved by the employer) this is to be claimed under the appropriate pay item in Section 7000 of the Pricing Schedule of Rates. Expenditure under this item shall only be undertaken on written instruction of the Employer.

--------END OF ADDENDUM No.2----------

3. SIGNATURE OF TENDERER

(Note: A duly signed copy of this complete Addendum No. 2 to the Tender Document is to be submitted with the tender documents):

SIGNED ON BEHALF OF TENDERER: _____

DATE: _____

TENDERER: _____