

### **REQUEST FOR TENDERS**

TENDER No.: SCMU10-21/22-0001

for

PROCUREMENT OF PROFESSIONAL SERVICES
FOR THE PROGRAMME MANAGEMENT AND
SUPPORT OF THE ROAD ASSET MANAGEMENT
SYSTEM (RAMS) REQUIREMENTS FOR A PERIOD
OF 3 YEARS

Issued by:

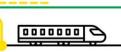
Province of the Eastern Cape Department of Transport

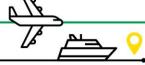
Private Bag X0023 BHISHO 5605 c/o Fleming Street & Cowan Close
KING WILLIAM'S TOWN
5601

NAME OF THE TENDERER:









	CONTENTS	
SECTION	DESCRIPTION	PAGE NUMBER(S)
	THE TENDER	
PART 1	TENDERING PROCEDURES	2
T1.1 T1.2	Tender Notice and Invitation to Tender Tender Data	3 5
PART 2	RETURNABLE DOCUMENTS AND SCHEDULES	12
T2.1 T2.2	List of Returnable Documents and Schedules Returnable Documents and Schedules	13
	THE CONTRACT	
PART 1	AGREEMENT AND CONTRACT DATA	46
C1.1 C1.2	Form of Offer and Acceptance Contract Data	47 51
PART 2	PRICING DATA	57
C2.1 C2.2	Pricing Instructions Pricing Schedule	58 60
PART 3	SCOPE OF WORK	61
3.1	Introduction	61
3.2	Planned Work: General	61
3.3	Description of relevant systems to be provided by The PSP	62
3.4	Annual RAMS Maturity Evaluation and Asset Management Levels	63
3.5	Data Collection Support Requirements	63
3.6	Situational Analysis	65
3.7	Investment Needs Determination	65
3.8	Panel Inspections	66
3.9	Reporting Format for the RAMP	67
3.10	Ad Hoc RAMS Reports	78
3.11	Inception Reports for Projects Emanating from RAMS	79
3.12	Progress Meetings and Reports	79
3.13	Staff Requirements	79

## TENDER

### PART 1 (OF 2): TENDERING PROCEDURES

T1.1	Tender Notice and Invitation to Tender	3
T1.2	Tender Data	5

### T1.1: TENDER NOTICE AND INVITATION TO TENDER



## PROVINCE OF THE EASTERN CAPE DEPARTMENT OF TRANSPORT

The Department of Transport in the Province of Eastern Cape hereby invites tenders for the provision of Professional Services for Programme Management Support of the Road Asset Management System (RAMS).

Tender documents will be available as of **Friday**, **16 April 2021** on the (tender's) e-portal as well as the Departmental website.

The completed tender document as well as any supporting documentation shall be placed in a sealed envelope clearly marked SCMU10–21/22–0001 PROCUREMENT OF PROFESSIONAL SERVICES FOR THE PROGRAMME MANAGEMENT AND SUPPORT OF THE ROAD ASSET MANAGEMENT SYSTEM (RAMS) INCLUDING OPERATIONAL REQUIREMENTS FOR A PERIOD OF 3 YEARS and with the name of the tenderer and deposited in the Tender Box at the Department of Transport, Stellenbosch Park, Old Building, King William's Town not later than 11h00 on 21 May 2021

Requirements for sealing, addressing, delivery, opening and assessment of quotations are stated in the Conditions of Tender.

### Tenderers must take particular note of the following:

- Only tenderers complying with the requirements as specified in the Conditions of Tender will be considered.
- Only tenderers with suitably qualified staff in a range of disciplines will be eligible to submit tenders. Qualification of staff includes the following:
  - o Professional Engineer (ECSA registration compulsory),
  - Professional Technologist (ECSA Registration Compulsory).
  - Professional Technician (ECSA Registration Compulsory),
  - National Diploma / Degree in Information Technology with suitable experience in GIS.
  - o In addition, the director / team leader must also be a Professional Engineer, registered with ECSA.
  - All key staff must have appropriate experience in RAMS.
- Only tenderers that can demonstrate previous experience in providing a suitable RAMS will be considered for this tender. As a minimum, the RAMS must include a relational database linked with a GIS.
- Tenderers will be assessed with functionality criterion, and tenders must achieve a minimum score of 70% to be considered for this tender.
- The tender will be evaluated according to the preferential procurement model in the Preferential Procurement Policy Framework Act (PPPFA Act 5 of 2000): Preferential Procurement Regulations, 2011 as well as the Supply Chain Management Policy of the Department of Transport.
- Tenderers must allocate a minimum of 30% of the value of the contract to either SMME sub-contracted
  consultants, or to internal (permanent or contract) staff that are specifically employed with a view towards
  development towards professional registration with ECSA. How this will be achieved must be included in the
  methodology statement that will form part of the contract document.

• The 80/20 or 90/10 preference point system will be applicable with 80/90 points allocated to Price and 20/10 points towards B-BBEE Status Level of Contribution, as follows:

B-BBEE Status Level of Contributor	Number of points (80/20 system)	Number of points (90/10 system)
1	20	10
2	18	9
3	16	8
4	12	5
5	8	4
6	6	3
7	4	2
8	2	1
Non-compliant Contributor	0	0

- The tenderer's attention is drawn to Form SBD6.1 whereby Tenderers other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS. Failure to do so will result in zero points score for B-BBEE status level. Further, a trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate tender.
- Eligibility as detailed in the Tender Data will apply (see F2.1 in Section T1.2: Tender Data). A tender offer not satisfying the stated eligibility criteria will be deemed non-responsive.
- Tenderers must complete the Compulsory Enterprise Questionnaire. Failing such will render the tender offer non-responsive. This condition applies to all parties involved in a Consortium or Joint Venture partnership.
- Tenderers are required to be registered for Value Added Tax (VAT) and must submit an original valid SARS Tax Clearance Certificate with the tender. This condition applies to all parties involved in a Consortium or Joint Venture partnership. If the tender is submitted simultaneously with other tenders to the Department of Transport or if the tenderer has in the recent past submitted an original valid Tax Clearance Certificate that is valid at time of this tender, then a copy of the original SARS Tax Clearance Certificate must be included with this tender and a cross reference must be made to the tender containing the original SARS Tax Clearance Certificate. Failing such will render the tender offer non-responsive.
- Tenderers must also submit a **valid** copy of their Letter of Good Standing from the Compensation Commissioner or FEMA within 14 days of the award of the contract. Failing such may lead to the cancellation of the contract.
- Failure to supply all supplementary / clarification information in terms of the PPPFA may result in the tender being deemed an incomplete tender and shall not be considered for award.
- The Contract will run for a period of five years from the date of entering into the contract

Tenders shall remain valid for a period **90 days** after the closing date. The lowest or any tender will not necessarily be accepted.

The Employer will not sign a contract with any PSP before registration on the Centralized Electronic Suppliers Database has been confirmed. All tenderers are therefore requested to complete the document: "Centralized Electronic Suppliers Database Confirmation" to confirm registration on the Centralized Electronic Suppliers Database or that a request for registration has been submitted. Telegraphic, telephonic, telex, facsimile, e-mailed, posted and late tenders will not be accepted.

Enquiries must be directed to:

Technical Enquiries:	Tender Administration Enquiries
AZ Soko	Mr. M. Cwili or Mr. P. Ngikashe
Mobile: 083 301 2023   Tel: 043 604 7426	Mobile: 067 414 2504  Tel: 043 604 7727
E-mail: azsjnr@gmail.com or al.soko@ectransport.gov.za	E-mail: mandiphiwe.cwili@ectransport.gov.za / Philasande.nqikashe@ectransport.gov.za

### **T1.2: TENDER DATA**

The Conditions of Tender are the Standard Conditions of Tender as contained in **Annexure F** of the Construction Industry Development Board's Revised Standard for Uniformity in Construction Procurement promulgated in Government Gazette No. 33239 dated **28 May 2010**. (Refer <a href="www.cidb.org.za">www.cidb.org.za</a>)

Tenderers shall obtain their own copy from the Construction Industry Development Board's website; refer <a href="www.cidb.org.za">www.cidb.org.za</a>, Publications, CIDB Publications.

The Standard Conditions of Tender make several references to the Tender Data which specifically applies to this tender. The Tender Data shall take precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender. Each item of data given below shall be cross-referenced to the Clause in the Standard Conditions of Tender to which it mainly applies.

The following variations, amendments and additions to the Standard Conditions of Tender, as set out below, shall apply to this tender:

Clause	Wording / Data
F.1.1.1	The employer is the Department of Transport, Province of the Eastern Cape.
F.1.2	
F.1.3.3	Add the following definition to Clause F.1.3.3:
	"g) <b>Conditions of Tender</b> means the Standard Conditions of Tender as amended in the Tender Data."
F.1.4	The employer's agent is:
	Telephone: 083 301 2023
	Electronic mail: azsjnr@gmail.com or al.soko@ectransport.gov.za
F.2.1	Add the following:
	"The tenderer shall provide Key Persons as listed below as well as in the Contract Data to perform specific duties.
	Only tenderers who have suitably experienced and qualified Key Persons in their full-time employ, either permanent staff or long term contract, and who will be available for the execution and completion of this contract are eligible to submit tenders. The Key Persons shall have the following minimum qualifications:
	Project Director: Registration with ECSA as a Professional Engineer, minimum of three years RAMS experience
	Professional Engineer: Registration with ECSA as a Professional Engineer, minimum of three years RAMS experience
	<u>Professional Technologist:</u> Registration with ECSA as a Professional Technologist, minimum of three years RAMS experience
	Senior Technician: Registration with ECSA as a Professional Technician, minimum of two years RAMS experience
	Junior Technician: Registration with ECSA as a Professional Technician / Candidate Technician, minimum of one year RAMS experience
	IT Systems Manager: National Diploma / Degree in Information Technology, minimum of three years RAMS experience
	Senior GIS Specialist: National Diploma / Degree in Information Technology, minimum of three years RAMS experience

Clause	Wording / Data
	Junior GIS Specialist: National Diploma / Degree in Information Technology OR National Diploma in Engineering or equivalent, minimum of one year RAMS experience  Professional Scientist (Environmental): Registration as a Professional Scientist (PrSciNat), minimum of three years borrow pit management / licensing.  Business Analyst: National Diploma / Degree in Commerce, minimum three years' experience in Government financial systems / budgeting.
	The Tenderer shall provide a suitably functional RAMS that is able to support at least a level two

The Tenderer shall provide a suitably functional RAMS that is able to support at least a level two maturity level, with capability to improve to level three, as determined in TMH22. The RAMS must be based on a Relational Database which must be linked to a GIS, and must be able to support all the components detailed in the scope of work. Shortlisted tenderers may be required to demonstrate the system at the request of the Employer, in order to confirm that it has the capability to deliver all aspects of the scope of work. The system must be tailored to a specific system, and must not be generic.

The tenderer must have successfully implemented at least one comprehensive **RAMS** in the past three years (including structures) i.e. international, national, provincial or metropolitan

In addition to the above-mentioned minimum qualifying criteria, the tenderer must obtain a minimum of 70% according to the following scoring system:

Criteria	Method of Points Allocation	Maxi- mum points
Project Director	Registration as Professional Engineer PLUS	10
•	3 years (36 months) RAMS experience – 6 points	
	4 years RAMS experience – 7 points	
	5 years RAMS experience – 8 points	
	6 years RAMS experience – 9 points	
	7 + years RAMS experience – 10 points	
Professional Engineer	Registration as Professional Engineer PLUS	10
	3 years (36 months)RAMS experience – 6 points	
	4 years RAMS experience – 7 points	
	5 years RAMS experience – 8 points	
	6 years RAMS experience – 9 points	
	7+ years RAMS experience – 10 points	
Professional	Registration as Professional Technologist PLUS	6
Technologist	3 years (36 months)RAMS experience – 4 points	
-	4 years RAMS experience – 5 points	
	5+ years RAMS experience – 6 points	
IT Systems Manager	IT National Diploma Degree PLUS	6
	3 years (36 months)RAMS experience – 4 points	
	4 years RAMS experience – 5 points	
	5+ years RAMS experience – 6 points	
Senior GIS Specialist	IT National Diploma Degree PLUS	6
·	3 years (36 months)RAMS experience – 4 points	
	4 years RAMS experience – 5 points	
	5+ years RAMS experience – 6 points	
Professional Scientist	Registration as a Professional Scientist (Environmental) PLUS	6
	3 years (36 months) Borrow-pit / Environmental experience – 4 points	
	4 years Borrow-pit / Environmental experience – 5 points	
	5+ years Borrow-pit / Environmental experience – 6 points	

Clause		Wording / Data	
0.000	Previous experience	Number of similar RAMS implemented over the past three	40
	of Tenderer	years:	
		5 points per RAMS for network smaller than 10,000 km and	
		level 1 maturity	
		10 points per RAMS for network smaller than 10,000 km and level 2 maturity	
		15 points per RAMS for network larger than 10,000 km and	
		level 1 maturity	
		20 points per RAMS for network larger than 10,000 km and	
		level 2 maturity	
		40 points per RAMS for network larger than 10,000 km and	
	Approach and	level 3 maturity	16
	Approach and Methodology -	Approach paper which responds to the scope of work and outlines the detailed proposed approach / methodology	10
	Wethodology -	and work plan, complete with timeframes, to ensure quality	
		and timely delivery of the project requirements. In	
		addition, tenderers must allocate a minimum of 30% of	
		the value of the contract to either SMME sub-	
		contracted consultants, or to internal (permanent or	
		contract) staff that are specifically employed with a view towards development towards professional	
		registration with ECSA. How this will be achieved must	
		be included in the methodology statement that will	
		form part of the contract document.	
		Poor - 4 points	
		Satisfactory - 8 points	
		Good - 12 points	
		Very Good / Excellent - 16 points  Total	100
F.2.2	Add the following to this		100
	"Accept that the employed	er will not compensate the tenderer for any costs incurred in office of the employer or the employer's agent."	attending
F.2.3	Delete the wording " ar	nd notify the employer of any discrepancy" and replace with	1:
	"and notify the employ	yer's agent of any discrepancy"	
F.2.7	The arrangement details and Invitation to Tender.	for the compulsory clarification meeting are stated in the Tend	der Notice
	Tenderers must complete of the tendering entity.	e and sign the attendance register at the clarification meeting in	the name
F.2.11	Add the following to this	Clause:	
		errors, or to make alterations, or in the event of a mistake han, it shall be neatly crossed out in non-erasable ink and all signal such alterations."	
F.2.12	No alternative offer will b	e considered.	
F.2.13.1 & F.2.13.3		ted tender document shall be returned with all the required in in non-erasable ink and in all aspects.	formation
	The original tender offe	er shall be submitted without any copies.	

Clause	Wording / Data
F.2.13.5	The employer's address and identification details are as stated in the Tender Notice and Invitation to Tender.
F.2.13.6	A two-envelope procedure will <u>not</u> be followed.
F.2.13.9	Telegraphic, telephonic, telex, facsimile, e-mailed, posted and late tenders will not be accepted.
F.2.15.1 & F.2.15.2	The closing date and time as well as the specified address and location of the tender box for submission of tender offers are stated in the Tender Notice and Invitation to Tender.
F.2.16.1 & F.2.16.2	The tender offer validity period is <b>90 days</b>
F.2.23	The tenderer is required to submit with his tender / quotation all the documents, schedules and certificates as listed under Part 2 of the Tender Portion.
F.3.1.1	Working days shall be as per a normal working week, Monday to Friday between the hours of 08h00 and 16h30 and shall exclude Saturdays, Sundays and all gazetted public holidays.
F.3.2	Amend the wording "three days" to read "three working days."
F 3.4.1	The time and place for the opening of valid tender submissions are stated in the Tender Notice and Invitation to Tender.
F.3.5	A two-envelope procedure will not be followed. (see F.2.13.6 ABOVE)
F.3.8.2	Amend the contents of Clause F.3.8.2 to read as follows:
	"A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviations or qualification.
	A material deviation or qualification is one which, in the employer's opinion, would:
	<ul><li>(a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,</li><li>(b) significantly change the employer's or the tenderer's risks and responsibilities under the</li></ul>
	contract, (c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified,
	<ul> <li>(d) indicate that the tenderer or tender does not comply with all the legal and statutory requirements, or</li> <li>(e) result in the tenderer not meeting the minimum points for functionality.</li> </ul>
	In addition to the above and in compliance with the requirements of Clause F.2.1, should the tenderer fail to offer the specified Key Persons or should the Key Persons so offered fail to comply with the minimum requirements regarding experience and qualifications, the tender shall be regarded as non-responsive.
F.3.11.1	A non-responsive tender offer will be rejected and not allowed to subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.  Tenders will be evaluated in terms of that specified in the Conditions of Tender as well as the Employer's latest Supply Chain Management Policy.
	The method for the evaluation of responsive tenders shall be Method 2: Financial Offer and Preference as described below.

Clause	Wording / Data
	EVALUATION OF TENDERS
	Evaluation Methodology
	Details of the Tenderer's Personnel, Relevant Experience, Local Offices, and Preferential Procurement information should be bound into a separate document for easy reference.
	The Tender evaluation will be conducted in three basic stages.
	Firstly, The tenders will be checked to ensure that they comply with the Tender rules
	<b>Secondly</b> . The Schedule of rates will be considered. Points will be calculated based on the relevant prices in accordance with the formula stated in the tender rules. A maximum of 80 points will be awarded for the lowest responsive price; points for other prices will be calculated pro rata.
	Thirdly, the remaining 20/10 points will be calculated from the B-BBEE component.
	Lastly the points for price and B-BBEE preference will be combined in accordance with to give a total score for each Position.
	The Tender for each position will be awarded to the responsive Tenderer who has scored the highest points for that position. However, the Department retains the right not to accept any Tender.
	First Stage in Evaluation : Compliance with Tender Rules and other Requirements
	The Tenders will be checked to ensure that they comply with the Tender Rules and all other requirements of the project document. All forms required to be completed in are to be fully completed, with the necessary supporting documentation provided. Failure to comply with the Tender rules or to supply the necessary information may result in the tender being rejected.
F.3.11.7	Second Stage of Evaluation.
	The financial offer shall be scored using Formula 2, Option 1 within Table F.1 with the value of $W_1 = 80/90$ .
	Up to 100 minus $W_1$ tender evaluation points will be awarded to tenderers on the basis of the data supplied under Part 2 – Returnable Documents and Schedules of the Tender Portion
F.3.11.8	Third Stage of Evaluation
	Tender evaluation points will be awarded to responsive tenderers who complete Form 1J (SBD 6.1) Preference Points Claim Form in terms of the Preferential Procurement Regulations and who are found to be eligible for the preference so claimed.
	Preference points shall be scored in accordance with the Department: National Treasury's Revised Preferential Procurement Regulations and the Broad-based Black Economic Empowerment Act.

Clause	Wording / Data			
	Preference points will be awarded to a tenderer for attaining the B-BBEE Status Level of			
	Contribution in accordance with the table below:			
	B-BBEE Status Level of Contributor	Number of points (80/20 system)	Number of points (90/10 system)	
	1	20	10	
	2	18	9	
	3	16	8	
	4	12	5	
	5	8	4	
	6	6	3	
	7	4	2	
	8	2	1	
	Non-compliant Contributor	0	0	
Eligibility for preference points will be determined as follows:  a) Valuation of preference points is based on tenderers' scorecards in acc Construction Sector Codes of Practice promulgated in Gazette 32305 on 5 b) Submission of Verification Certificates that are based on the Departme Industry (DTI) Generic Scorecard or the draft Construction Charter system Construction Transformation Charter Group, will not score any preference c) The only Verification Certificates that will be accepted are those issue Agencies accredited by South African National Accreditation Syste contemplated in the B-BBEE Framework for accreditation and verification Agencies promulgated in the Government Notice 810 of 31 July 2009.  d) The Verification Certificate must be current, meaning that it must have be recently than 12 (twelve) months prior to the tender closing date.  e) Failure to submit an original valid Verification Certificate or certified or result in the award of 0 (zero) points for preference.  f) In the event of a joint venture or consortium, each member of such an comply with the above requirements.  g) A trust, consortium or joint venture, will qualify for points for their B-BBEE legal entity, provided that the entity submits their B-BBEE status level certificate unincorporated entity, provided that the entity submits their consolidated B		operatment of Trade and system published in the erence points. The issued by Verification System (SANAS) as ication by all Verification operation by all Verification operation operation of the copy thereof will such an association shall as BEE status level as a relicertificate.		
F.3.13	for every separate tender.  Replace the entire contents of Clauses F.3.13  e) complies with all legal and statutory require	•	ollowing:	
	f) is able, in the opinion of the employer, to p g) is in possession of an original valid Tax ( Revenue Services; h) none of its directors or shareholders is lis of the Prevention and Combating of Corr from doing business with the public sector i) has not: (i) abused the employer's Supply Cha (ii) failed to perform on any previous effect;	perform the contract free of Clearance Certificate issues ted on the Register of Terupt Activities Act of 2004; in Management System, contract and been served	nder Defaulters in terms as a person prohibited or d a written notice to this	
	<ul> <li>j) has completed the Compulsory Enterprise which may impact on the tenderer's ability employer or potentially compromise the te</li> </ul>	to perform the contract in		

Clause	Wording / Data	
	<ul> <li>k) is registered and in good standing with the compensation fund or with a licensed compensation insurer;</li> <li>l) has, in terms of the Construction Regulations (2003) and the Occupational Health and Safety Act (1993), the necessary competencies and resources to carry out the work safely;</li> <li>m) has correctly completed and signed the Form of Offer.</li> </ul>	
F.3.17	n) has provided Authority of Signatory duly signed by Director /owner of the company.	
F.3.1 <i>1</i>	The number of copies of the signed contract to be provided by the employer is one.	

	TENDER	
	PART 2 (OF 2): RETURNABLE DOCUMENTS AND SCHEDULES	
T2.1	List of Returnable Documents and Schedules	13
T2.2	Returnable Documents and Schedules	14

### T2.1: LIST OF RETURNABLE DOCUMENTS AND SCHEDULES

The original and completed tender document (refer clause(s) F.2.13 of the Conditions of Tender) shall be returned with all the required information, duly completed in non-erasable ink in all aspects.

The following documents and schedules are to be completed and returned, as they constitute the tender. Whilst many of the returnables are required for the purpose of evaluating the tenders, some will form part of the subsequent Contract, as they form the basis of the tender offer. For this reason, it is important that tenderers submit, return, complete and sign **all the information**, **documents and schedules**, **as requested**.

Tenderers shall note that their signatures appended to each returnable form represents a declaration that they vouch for the accuracy and correctness of the information provided, including the information provided by candidates proposed for the specified key positions.

Notwithstanding any check or audit conducted by or on behalf of the Employer, the information provided in the returnable documents is accepted in good faith and as justification for entering into a Contract with a tenderer. If subsequently any information is found to be incorrect such discovery shall be taken as wilful misrepresentation by that tenderer to induce the Contract. In such event the Employer has the discretionary right under Clause 8.4 of the Conditions of Contract to terminate the Contract.

#### 1. RETURNABLES REQUIRED FOR TENDER EVALUATION PURPOSES

- 1A Certificate of Attendance at Clarification Meeting
- 1B Joint Venture / Consortium Disclosure Form
- 1C Authority for Signatory
- 1D Schedule of Variations and Deviations
- 1E Centralized Electronic Suppliers Database Confirmation
- 1F (SBD 1) Invitation to Tender
- 1G (T2.2R) Compulsory Enterprise Questionnaire
- 1H Tenderer's Bank Details
- 1I (SBD 4) Declaration of Interest
- 1J (SBD 6.1) Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2001
- 1K (SBD 8) Declaration of Tenderer's Past Supply Chain Management Practises
- 1L (SBD 9) Certificate of Independent Tender Determination
- 1M Personnel Schedule
- 1N Schedule of Company Experience.

#### 2. RETURNABLES THAT WILL BE INCORPORATED INTO THE CONTRACT

- 2A Record of Addenda to Tender Documents
- 2B Certificate of Insurance Cover
- 2C Approach and Methodology

## 3. OTHER SCHEDULES AND DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT (included hereafter for completion)

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C2.2 Pricing Schedules

### T2.2: RETURNABLE DOCUMENTS AND SCHEDULES

## 1A: CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING

(tenderer)	,	·
of (address)		
Telephone Number:		
Facsimile Number:		
attended the Compulsory Clarificat	ion Meeting held on (date and time)	
•	ntract Documents, I am fully aware of the scope of work. I have made uence the work and the cost thereof.	myself familiar
•	with the description of the work and explanations given by the Employend the work to be done, as specified and implied, in the execution of	
Tenderer's Representative:		
Signature)	(Name)	
Employer's Representative:		
(Signature)		
	(Name)	

### 1B: JOINT VENTURE / CONSORTIUM DISCLOSURE FORM

Tenderers submitting tenders as a joint venture or consortium are to attach a signed copy of the Joint Venture / Consortium Agreement duly signed by all parties.

Where a Joint Venture / Consortium Agreement have not yet been formalized, the tenderer is to attach a Letter of Intent of a Joint Venture / Consortium, duly signed by all parties.

In all cases the percentage (%) shareholding as well as the participation details of each member shall be clearly stated.

#### Please note Form SBD6.1:

- 5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.
- 5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate tender

Signed	Date
Name	Position
Tenderer	

### 1C: AUTHORITY FOR SIGNATORY

### The tenderer shall attach to this page a Certificate of Authority for Signatory.

The **certificate shall be printed on the tendering entity's letterhead** and shall be a duly signed and dated copy of the relevant resolution of the board of directors / partners duly authorising the person to sign all documents in connection with the tender.

In the event that the tenderer is a joint venture or consortium, a certificate is required from each member of the joint venture or consortium clearly setting out the following:

- a) authority for signatory,
- b) undertaking to formally enter into a joint venture / consortium contract should an award be made to the joint venture / consortium,
- c) name of designated lead member of the intended joint venture / consortium, as required by the Conditions of Tender.

<u>NB</u>: The resolution below is given as <u>an example</u> of an acceptable format for authorisation. Submission of this page with the example completed shall not be accepted as authorisation of the tenderer's signatory.

### Example

		Example		
•	ution of the board of directors	·		•
signature a	appears below, has been duly autho	orised to sign all documer	nts in connection with the te	ender for Contract No
(insert	Contract	No	and	Description)
			, and any cont	ract which may arise
	on behalf of (insert tenderer Compar	. ,		
SIGNED	ON B	EHALF OF	THE	COMPANY:
IN HIS / HE	ER CAPACITY AS:			
DATE:				
SIGNATUF	RE OF DULY AUTHORISED SIGNA	TORY:		
WITNESSI	ES:			
1).	Signature		Name (Print)	
2).				
ŕ	Signature		Name (Print)	

1D: SCHEDU	F OF	VARIATIONS	UB DE	ΊΛΙΛ	IONS
ID. OCHEDU		VANIATIONS		·VIAI	

The tenderer shall record any variations, deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule.

The tenderer's attention is drawn to Clause 3.8 of the Conditions of Tender regarding the Employer's handling of material deviations and qualifications.

rage Number Clause / Item	Proposal
<u> </u>	1
I, the undersigned, warrant that I am duly this schedule are, to my personal knowled	authorised to do so on behalf of the enterprise and confirm that the contents of loe and best belief, both true and correct.
, , , , , , , , , , , , , , , , , , ,	G , »
Signed	Date

Tenderer .....

Position .....



### CENTRALIZED ELECTRONIC SUPPLIERS DATABASE CONFIRMATION

Centralized Electronic Database Supplier Number				
If not registered at Centralised Electronic Supplier Database, was a reque Provincial Treasury: Eastern Cape?	est for registrat	on submitted to	Yes	No
If "No", complete and submit the application forms to Treasury (available	e at Provincial <sup>·</sup>	Treasury website).		
DECLARATION				
I, THE UNDERSIGNED (NAME)				
FROM:				
CERTIFY THAT THE STATE MAY REJECT THE TENDER OR ACT A GOVERNMENT PROCUREMENT CONDITIONS OF CONTRACT IF THE AND ACCURATE.				
Signed	Date			
Name	Position			
Tenderer				

### **1F: INVITATION TO TENDER**

Form SBD 1

### YOU ARE HEREBY INVITED TO QUOTE FOR REQUIREMENTS OF THE DEPARTMENT OF TRANSPORT

TENDER NUMBER: **SCMU10-21/22-0001** 

CLOSING DATE: 21 May 2021

CLOSING TIME: 11h00

DESCRIPTION: PROCUREMENT OF PROFESSIONAL SERVICES FOR THE PROGRAMME MANAGEMENT AND SUPPORT OF THE ROAD ASSET MANAGEMENT SYSTEM (RAMS) INCLUDING OPERATIONAL REQUIREMENTS FOR A PERIOD OF 3 YEARS

TENDER VALIDITY PERIOD: 90 Days

The successful tenderer will be required to fill in and sign a written Contract (Form of Offer and Acceptance)

TENDER DOCUMENTS MUST BE DEPOSITED IN THE TENDER BOX SITUATED AT: The Department of Transport, Ground Floor, Old Building, Block C, King William's Town

Tenderers should ensure that tenders are delivered before Tender Closing Time to the correct address. If the tender is late, it will not be accepted for consideration.

ALL TENDERS MUST BE SUBMITTED ON THE OFFICIAL FORMS - (NOT TO BE RE-TYPED)

THIS TENDER IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT

## THE FOLLOWING PARTICULARS MUST BE FURNISHED FAILURE TO DO SO MAY RESULT IN YOUR TENDER BEING DISQUALIFIED)

NAME OF TENDERING COMPAN	Y:	
STREET ADDRESS:		
TELEPHONE NUMBER:	CODE: NUMBER:	
FACSIMILE NUMBER:	CODE: NUMBER:	
VAT REGISTRATION NUMBER:		
CELL PHONE NUMBER:		
E-MAIL ADDRESS:		
HAS AN ODIGINAL AND VALID TA	AY OLEARANCE CERTIFICATE REEN SURMITTED? (FORD 2)	VES / NO

HAS A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED? (ECBD 6.1) YES / NO IF YES, WHO WAS THE CERTIFICATE ISSUED BY? A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN ACCREDITATION SYSTEM (SANAS) OR ...... A REGISTERED AUDITOR APPROVED BY IRBA ..... AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT ...... ITICK APPLICABLE BOXI (AN ORIGINAL OR CERTIFIED COPY OF B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE) ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS / SERVICES / WORKS OFFERED? YES / NO [IF YES ENCLOSE PROOF] SIGNATURE OF TENDERER: PRINT NAME ..... DATE: ..... CAPACITY UNDER WHICH THIS TENDER IS SIGNED:..... TOTAL TENDER PRICE: ANY ENQUIRIES REGARDING THE TENDERING PROCEDURE MAY BE DIRECTED TO:

Department: Department of Transport

**Contact Person:** Mr. M. Cwili Tel/Mobile: 067 414 6592

E-mail address: mandiphiwe.cwili@ectransport.gov.za

OR

**Contact Person:** Mr. P. Ngikashe Tel/Mobile: 043 604 7727

E-mail address: philasande.nqikashe@ectransport.gov.za

ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO:

**Contact Person:** Mr. AZ Soko

043 604 7426 / 083 301 2023 Tel/Mobile:

E-mail address: azsjnr@gmail.com or al.soko@ectransport.gov.za

### 1G: COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. Note: In the case of a joint venture or consortium, <b>separate enterprise questionnaires</b> in respect of each partner must be completed and submitted.				
	·			
Section 1: Name of enterprise:				
Section 2: VAT registration num	mber, if any:			
Section 3: cidb registration nu	mber, if any:			
Section 4: Particulars of sole p	roprietors and partners in partner	ships		
Name*	Identity number*	Personal income tax number*		
* Complete only if sole proprietor o	r partnership and attach separate pa	ge if more than 3 partners		
Section 5: Particulars of compa	anies and close corporations			
Company registration number				
Close corporation number				
Tax reference number				
Section 6: The attached SBD4 r	nust be completed for each tender	and attached as a tender requirement		
Section 7: The attached SBD6.1 must be completed for each tender and attached as a tender requirement				
Section 8: The attached SBD8 must be completed for each tender and attached as a tender requirement				
Section 9: The attached SBD9 must be completed for each tender and attached as a tender requirement				
The undersigned, who warrants that	at he / she is duly authorized to do so	o on behalf of the enterprise:		
i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;				
ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;				
iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;				
iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and				
iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.				
SignedDate				
NamePosition				
Enterprise name				

## 1H: COMPULSORY ENTERPRISE QUESTIONNAIRE

Tenderer's Bank	CDetails –			
	Bank Name:			
	Address:			
	Branch Number			
	Account Number:			
	Contact Person:			
	Tel No.:			
	Fax No.:			
A letter from the Bank confirming these details and the Tenderer's bank rating should be attached to this page.				
Signed			Date	
Name			Position	
Tenderer				

Form SBD 4

### **DECLARATION OF INTEREST**

- 1. Any legal person, including persons employed by the state<sup>1</sup>, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-
  - the bidder is employed by the state; and/or
  - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.

2.	In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
2.1	Full Name of bidder or his or her representative:
2.2	Identity Number:
2.3	Position occupied in the Company (director, trustee, shareholder²):
2.4	Company Registration Number:
2.5	Tax Reference Number:
2.6	VAT Registration Number:
<sup>2</sup> "Share	The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.  means —  (a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);  (b) any municipality or municipal entity;  (c) provincial legislature;  (d) national Assembly or the national Council of provinces; or  (e) Parliament.  holder" means a person who owns shares in the company and is actively involved in the management of the enterprise or ess and exercises control over the enterprise.
2.7	Are you or any person connected with the bidder presently employed by the state?  YES / NO
2.7.1	If so, furnish the following particulars:
	Name of person / director / trustee / shareholder/ member:  Name of state institution at which you or the person

		connected to the bidder is employed : Position occupied in the state institution:	
		Any other particulars:	
	2.7.2	If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector?	YES / NO
	2.7.2.1	If yes, did you attached proof of such authority to the bid document?	YES / NO
		(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.	
	2.7.2.2	If no, furnish reasons for non-submission of such proof:	
	2.8 [	Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months?	YES / NO
	2.8.1	If so, furnish particulars:	
	2.9	Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid?	YES / NO
	2.9.1118		
2.10	awa any who	u, or any person connected with the bidder, re of any relationship (family, friend, other) between other bidder and any person employed by the state may be involved with the evaluation and or adjudication his bid?	YES/NO
2.10.1	1 If so. fu	rnish particulars.	

YES/NO

2.11 Do you or any of the directors / trustees / shareholders / members

If so,	furnish particulars:			
Full	details of direct	ors / trustees / m	embers / sharehold	ers.
Full	l Name	Identity Number	Personal Tax Reference Number	State Employee Number
	DEOL ADATION			
4	DECLARATION	-		
	CERTIFY THAT THE IN	FORMATION FURNISHED STATE MAY REJECT THI	IN PARAGRAPHS 2 and 3 ABO E BID OR ACT AGAINST ME I ITRACT SHOULD THIS DEC	VE IS CORRECT. N TERMS OF PARAGE
	Signature		Date	

## 1J: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

Form SBD 6.1

## PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

### 1. GENERAL CONDITIONS

- 1.1 The following preference point systems are applicable to all bids:
  - the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
  - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2

- a) The value of this bid is estimated to exceed/not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 or 90/10 preference point system shall be applicable; or
- b) Either the 80/20 or 90/10 preference point system will be applicable to this tender (*delete whichever is not applicable for this tender*).
- 1.3 Points for this bid shall be awarded for:
  - (a) Price; and
  - (b) B-BBEE Status Level of Contributor.
- 1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80/90
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20/10
Total points for Price and B-BBEE must not exceed	100

- 1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.
- 1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

### 2. **DEFINITIONS**

- (a) "B-BBEE" means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) "B-BBEE status level of contributor" means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) "bid" means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) "Broad-Based Black Economic Empowerment Act" means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) "EME" means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act:
- (f) "functionality" means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) "prices" includes all applicable taxes less all unconditional discounts;
- (h) "proof of B-BBEE status level of contributor" means:
  - 1) B-BBEE Status level certificate issued by an authorized body or person;
  - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice:
  - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) "QSE" means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) "rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

### 3. POINTS AWARDED FOR PRICE

### 3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right)$$
 or  $Ps = 90\left(1 - \frac{Pt - P\min}{P\min}\right)$ 

Where

Ps = Points scored for price of bid under consideration

Pt = Price of bid under consideration

Pmin = Price of lowest acceptable bid

#### 4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

_			40	TIO.	
5.	KII)	DECL	$\Delta R I$	7 I I( )L	u

5.1	Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete
	the following:

6.	B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4
	AND 4.1

6.1	B-BBEE Status Level of Contributor:	=	(maximum of 10 or 20
	points)		

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

### 7. SUB-CONTRACTING

7.1 Will any portion of the contract be sub-contracted?

(Tick applicable box)

YES	NO	

_	4	4				
/	1	-	1+ 1	100	nnc	いへつせつ
7.	- 1	- 1	- 11	VES. I	II IC.	licate

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE

(Tick applicable box)
YES NO

v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2017:

Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		

Black people with disabilities	
Black people living in rural or underdeveloped areas or townships	
Cooperative owned by black people	
Black people who are military veterans	
OR	
Any EME	
Any QSE	

8.	DECLARATION WITH REGARD TO COMPANY/FIRM
8.1	Name of company/firm:
8.2	VAT registration number:
8.3	Company registration number:
8.4	TYPE OF COMPANY/ FIRM
	<ul> <li>□ Partnership/Joint Venture / Consortium</li> <li>□ One person business/sole propriety</li> <li>□ Close corporation</li> <li>□ Company</li> <li>□ (Pty) Limited</li> <li>[TICK APPLICABLE BOX]</li> </ul>
8.5	DESCRIBE PRINCIPAL BUSINESS ACTIVITIES
8.6	COMPANY CLASSIFICATION
	<ul> <li>Manufacturer</li> <li>Supplier</li> <li>Professional service provider</li> <li>Other service providers, e.g. transporter, etc.</li> <li>[TICK APPLICABLE BOX]</li> </ul>
8.7	Total number of years the company/firm has been in business:
8.8	I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:
	i) The information furnished is true and correct;
	<ul> <li>ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;</li> </ul>

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to

iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent

the satisfaction of the purchaser that the claims are correct;

basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –

- (a) disqualify the person from the bidding process;
- (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
- (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
- (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram* partem (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution.

WITNESSES	
1	SIGNATURE(S) OF BIDDERS(S)
2	DATE:
	ADDRESS

SBD 8

# DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Standard Bidding Document must form part of all bids invited.
- It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- The bid of any bidder may be disregarded if that bidder, or any of its directors have
  - a. abused the institution's supply chain management system;
  - b. committed fraud or any other improper conduct in relation to such system; or
  - c. failed to perform on any previous contract.
- In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

14	Our d'an	V	N.
<b>Item</b> 4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?  (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).  The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the	Yes Yes	No No
	bottom of the home page.		
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?  The Register for Tender Defaulters can be accessed on the National Treasury's website ( <a href="www.treasury.gov.za">www.treasury.gov.za</a> ) by clicking on its link at the bottom of the home page.	Yes	No 🗌
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes	No
4.4.1	If so, furnish particulars:		

### CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)	
CERTIFY THAT THE INFORMATION FURNISHED OF CORRECT.	N THIS DECLARATION FORM IS TRUE AND
I ACCEPT THAT, IN ADDITION TO CANCELLATION AGAINST ME SHOULD THIS DECLARATION PROVE	· ·
Signature Date	
Position Name of Bidder	

### 1L: CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

SBD 9

#### CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Standard Bidding Document (SBD) must form part of all bids<sup>1</sup> invited.
- Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
  - a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
  - cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

<sup>&</sup>lt;sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>&</sup>lt;sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

### CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:		
(Bid Number and Description)		
in response to the invitation for the bid made by:		
(Name of Institution)		
do hereby make the following statements that I certify to be true and complete in every respect:		
I certify, on behalf of:that	at:	
(Name of Bidder)		

- 1. I have read and I understand the contents of this Certificate;
- 2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
- 3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder:
- 4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
- 5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

- 6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
- 7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices:
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
- 8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
- The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

<sup>&</sup>lt;sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signature	
Ū	Date
Danition	
Position	Name of Bidder

## **1M: PERSONNEL SCHEDULE**

Only tenderers who have suitably experienced and qualified Key Persons available in their full-time employ or long term contract that satisfy the criteria and specific conditions stated under the Conditions of Tender as well as the Conditions of Contract are eligible to submit tenders. The tenderer's attention is specifically directed to Clauses F.2.1 and F.3.8.2 of the Conditions of Tender regarding eligibility and responsiveness.

The names of the proposed Key Persons for each category of work shall be provided in the table below.

Category of Work	First Name and Surname	Qualification	Professional Registration Category	Professional Registration No	Years Relevant Exp
Director			Compulsory Registration	Compulsory	
Professional Engineer			Compulsory Registration	Compulsory	
Professional Technologist			Compulsory Registration	Compulsory	
Senior Technician			Compulsory Registration	Compulsory	
Junior Technician			Compulsory Registration	Compulsory	
IT Systems Manager			Not Required - Optional	Optional	
Senior GIS Specialist			Not Required - Optional	Optional	
Junior GIS Specialist			Not Required - Optional	Optional	
Professional Scientist (Environmental)			Compulsory Registration	Compulsory	
Business Analyst			Not Required - Optional	Optional	

<u>Detailed and project specific</u> Curricula Vitae (CV) for all proposed Key Personnel shall <u>accompany and be attached to this tender</u>, demonstrating that the individuals comply with the various criteria and specific conditions, as applicable. Certified copies of Certificates proving Qualifications must be submitted, as well as proof of registration of professional bodies where applicable.

The Curricula Vitae shall be so structured as to, inter alia, incorporate the following:

- a) Person's date of birth.
- b) Person's full academic and educational qualifications and date obtained
- c) Personnel's professional registrations and other relevant affiliations, all certificates must be certified copies.
- d) Copies of membership of voluntary organizations and/or attendances at seminars etc are not required.
- e) Name of current employer and position within the enterprise.
- f) A list of previous employers for the past five years, clearly stating periods of service and providing a person as reference with these employers, complete with contact telephone numbers.
- g) Detailed and project specific records related to previous experience in the project categories as listed in F3.8.2, from which the Employer can clearly determine the number of projects per category and also the duration of the project.

Failure to comply with all of the above requirements shall be regarded as a material deviation or qualification and the tender shall be declared non-responsive.

I, the undersigned, warrant that I am duly authorised to do so on behalf of the enterprise and confirm that the contents of

this schedule are, to my personal knowledge and best belief, both true and correct.

Signed	Date
Name	Position
Tenderer	

# **1N: COMPANY EXPERIENCE**

The Tenderer shall enter in the spaces provided below a list of similar type and size projects completed, or in which meaningful progress has been made (through which a substantive reference can be obtained from the Employer), in the past five years.

This information is deemed to be material to the award of the contract and is taken into account in the calculation of the Tender adjudication points. Tenderers need only provide details of projects in the past 5 years. It is essential that full details of the projects and of the Employer be provided in order that references can be sought by the Department where deemed necessary, in order for the projects to be evaluated and points awarded. Projects may be submitted, in similar format, on a separate sheet, but must be referenced from this page, and must contain, as a minimum, the information required below. The value of the work is to be the OVERALL project value.

Failure to provide the necessary information will compromise the Tender.

EMPLOYER OR REFEREE (CONTACT NAME: TEL. No: EMAIL.)	DETAILS OF PROJECT INCLUDING THE ROLE PLAYED BY THE TENDERER	VALUE OF PROJECT (TOTAL)	YEAR STARTED – YEAR COMPLETED

Continued overleaf... - /

# **COMPANY EXPERIENCE (Continued)**

EMPLOYER OR REFEREE (CONTACT NAME: TEL. No: EMAIL.)	DETAILS OF PROJECT INCLUDING THE ROLE PLAYED BY THE TENDERER	VALUE OF PROJECT (TOTAL)	YEAR STARTED – YEAR COMPLETED
Signed	Date		
Name	Position		
Tenderer			

# 2A: RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

Addendum Number	Date	Title or Details
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attach additional pages if more space is required.

I, the undersigned, warrant that I am duly authorised to do so on beha this schedule are, to my personal knowledge and best belief, both true	
Signed	Date
Name	Position
Tenderer	

# **2B: CERTIFICATE OF INSURANCE COVER**

In the event of the tenderer being a joint venture / consortium the details of the individual members must also be provided.

The tenderer shall provide the following details of this insurance cover and attach to this page a certified copy of proof of the stated Professional Indemnity cover:

(i)	Name of Tenderer:	
( )		
(ii)	Period of Validity:	
(iii)	Value of Insurance:	
	Professional Indemnity (for each and every ca	ase). Minimum R 2 Million
	Company:	
	Value:	
	undersigned, warrant that I am duly authorised to do so hedule are, to my personal knowledge and best belief,	o on behalf of the enterprise and confirm that the contents of both true and correct.
Signed	l	Date
Name		Position
<b>-</b> .		

2C:	APPRO	MΩH		MET	HUDUI	CCY
ZU.	AFFIL	MULL	AINL	17111	HODOL	_001

# CONTRACT

# PART 1 (OF 3): AGREEMENT AND CONTRACT DATA

C1.1	Form of Offer and Acceptance	47
C1.2	Contract Data	51

# **C1.1: FORM OF OFFER AND ACCEPTANCE**

# (Agreement)

# 1. OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a Contract for the procurement of:

# TENDER No SCMU10-21/22-0001

# PROCUREMENT OF PROFESSIONAL SERVICES FOR THE PROGRAMME MANAGEMENT AND SUPPORT OF THE ROAD ASSET MANAGEMENT SYSTEM (RAMS) REQUIREMENTS FOR A PERIOD OF 3 YEARS

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Conditions of Tender and Addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the PSP under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data

the Conditions of Contract Identified in the Contract D	ala.				
1) THE OFFERED CEILING PRICE INCLUSIVE OF	1) THE OFFERED CEILING PRICE INCLUSIVE OF VALUE ADDED TAX IS:				
	R	and (in words) OR;			
R(in figures	s)				
This Offer may be accepted by the Employer by sig returning one copy of this document to the Tendere Tender, whereupon the Tenderer becomes the party the Contract Data.	r before the end of the period of va	alidity stated in the Conditions of			
For the <b>Tenderer</b> :					
Signature		Date			
Name					
Capacity					
Name and Address of Organisation:					
Witness:					
Name	Signature	Date			

#### 2. ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the PSP the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the Contract are contained in

Part C1: Agreements and Contract Data (which includes this Agreement)

Part C2: Pricing Data Part C3: Scope of Work Part C4: Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Conditions of Tender and any Addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The tenderer shall within two weeks after receiving a completed copy of this Form of Offer and Acceptance, including the Schedule of Deviation (if any), contact the Employer's representative (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to fulfil any of the obligations in accordance with these terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now PSP) within five (5) working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

For the <b>Employer:</b>		
Signature		Date
Name		
Capacity		
Name and Address of Organisation:		
Department of Transport Province of the Eastern Cape Private Bag X0023 BHISHO, 5605		
Witness:		
Name	Signature	Date

# 3. SCHEDULE OF DEVIATIONS

#### Notes:

- 1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
- 2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process, of offer and acceptance, the outcome of such agreement shall be recorded here.
- 3. Any other matter arising from the process of offer and acceptance, either as a confirmation, clarification or change to the tender documents, and which it is agreed by the Parties becomes an obligation of the contract, shall also be recorded here.
- 4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

(i)	Subject:		
	Details:		
(ii)	Subject:		
	Details:		
(iii)	Subject:		
	Details:		
(iv)	Subject:		
	Details:		
accep Condi	at the foregoing Schedule of Deviations as the tions of Tender and Addenda thereto as listed	only deviations fi in the Tender So	ations, the Employer and the Tenderer agree to and com and amendments to the documents listed in the chedules, as well as any confirmation, clarification of cloyer during this process of offer and acceptance.
issue		e Tenderer of a	nmunication or implied during the period between the completed signed copy of this Agreement shall have this Agreement.
For	the Tenderer:		For the Employer:
		Signature	
		Name	
		Capacity	

Name and Address of Organisation		Name and Address of Organisation
		Department of Transport
		Province of the Eastern Cape
		Private Bag X0023
		BHISHO
		5605
	Witness Signature	
	Witness Name	
	Date	

## C1.2: CONTRACT DATA

The General Conditions of Contract as contained in the **Standard Professional Services Contract**, **July 2009**, **Third Edition of CIDB document 1015**, as published by the Construction Industry Development Board, is applicable to this Contract.

Tenderers shall obtain their own copy of the stated Standard Professional Services Contract from the Construction Industry Development Board's website, refer www.cidb.org.za.

The pro-forma documents and pages attached to the Standard Professional Services Contract on pages 17 to 24 shall not apply to this Contract and shall be replaced with the documentation bound under this Contract Document.

The General Conditions of Contract make several references to the Contract Data for specific data, which together with the standard contract collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

The General Conditions of Contract shall be read in conjunction with the variations, amendments and additions set out in the Contract Specific Data below. Each item of data given below is cross-referenced to the clause in the General Conditions of Contract to which it mainly applies.

### PART 1: DATA PROVIDED BY THE EMPLOYER

Clause	Description / Wording
1.	<u>Deliverable</u>
	Delete the heading "Deliverable" within this Clause and replace with:
	"Deliverable / Assessment"
1.	<u>Employer</u>
	The Employer is the Department of Transport, Province of the Eastern Cape (ECDOT).
1.	Key Persons
	Refer also to Clause 7 of the Conditions of Contract.
1.	Period of Performance
	The Period of Performance is three years (36 months), with an option to extend for a further two years (24 months), subject to the needs of the Department and performance of the Service Provider over the duration of the contract.
1.	<u>Project</u>
	PROCUREMENT OF PROFESSIONAL SERVICES FOR THE PROGRAMME MANAGEMENT AND SUPPORT OF THE ROAD ASSET MANAGEMENT SYSTEM (RAMS) REQUIREMENTS FOR A PERIOD OF 3 YEARS
1.	Start Date
	The Start Date is when the Agreement comes into effect (Refer Form of Offer and Acceptance).
1.	Add the following new definition to Clause 1:
	"Conditions of Contract
	The General Conditions of Contract as amended in the Contract Data."

Clause	Description / Wording
3.4.1	The authorised and designated representative of the Employer is: Mr AZ Soko
3.5	The Services shall be performed based in the Eastern Cape  The PSP may not release public or media statements or publish material related to the Services or the Project under any circumstances without the specific approval of the Employer.
3.11	Add the following to this Clause:  "The PSP shall be responsible for their own insurances and will indemnify and hold the Employer harmless against any losses, claims, demands, proceedings, actions, damages and expenses of whatever nature in respect of any losses or damages to any property or person in the employ of the PSP or for that matter, any other party, resulting from the execution and performance of the Services.
3.12.1	The penalty payable is R 2000 per day per day subject to a maximum amount of R10,000.00 per day for late submission of key reports. Key reports are any reports identified by the Employer's representative, giving the PSP reasonable time to prepare such Key Reports.
3.15.1	The programme shall be discussed with the successful tenderer after the award.
3.16.2	The index is the Consumer Price Index (CPI index), year-on-year, as published in the monthly Statistics South Africa bulletin.
3.17	<ul> <li>Add the following new Clause 3.17:</li> <li>"Price adjustment to tendered rates for inflation</li> <li>Tendered rates which are stated in the Pricing Data shall be subject to adjustment for inflation as provided for below:</li> <li>(i) The rates shall be fixed for the first 12-month period determined from the tender base date and no adjustment during this period will be allowed for inflation.</li> <li>(ii) On the 12-month anniversary date of the Contract base date the rates shall be adjusted by the 12-month year on year Consumer Price Index (CPI index) as published in the monthly bulletin of Statistics South Africa and fixed at this value for the following 12-month period. Subsequent 12-month periods shall be dealt with on the same basis.</li> <li>(iii) Adjustment for inflation of yearly rates as well as lump or provisional sums shall only be applicable to that portion of the relevant Service which is incomplete at the end of the 12-month anniversary date and shall not be applicable to any progress payments already claimed.</li> <li>(iv) Adjustment for inflation shall only be applicable for Services or portions thereof, that are still within the prescribed programme and any approved extensions of time."</li> </ul>
4.3.2       5.4.1	The authorised and designated representative of the Employer is: AZ Soko  The PSP is required to provide the Service with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards.  The PSP is required to provide the following insurances  a) Insurance against Professional Indemnity Cover is: R 10 million (minimum) Period of cover: From the Start Date for the duration of the Contract

Clause	Description / Wording
5.5	The PSP is required to obtain the Employer's prior approval in writing before taking / effecting any of the following actions:
	Appointing / utilising any other authorised and designated representative not listed and approved of by name in the Contract.
	<ul> <li>Appointing / utilising any other Key Persons not listed and approved of by name in terms of the Contract. (Refer also Schedule 1M: Key Personnel Schedule).</li> </ul>
	Appointing / utilising Subcontractors for the performance of any part of the Service without prior approval of the Employer's representative.
	• Expending any Provisional Sum stated in the Contract without prior approval of the Employer's representative.
	Over-expenditure on the Contract.
	Changing / amending the Scope of Work.  Making statements to the modile regarding the Project.
	Making statements to the media regarding the Project.
7.1.2	The Key Persons shall comprise those persons described in the Personnel Schedule, with the requisite professional registration, where applicable.
8.1	The PSP is to commence the performance of the Services within fourteen (14) days of the Start Date.
8.4.3 (c)	The period of suspension under this Clause shall be six (6) months.
9.1	Copyright of all documents prepared by the Services Provider relating to the Project shall vest with the Employer.
12.1.2	Settlement of disputes or claims which cannot be settled between the Parties in terms of this Clause shall be referred to Adjudication.
12.3.3	In the event that the parties fail to agree on an Adjudicator, the Adjudicator is to be nominated by the President of the South African Institution of Civil Engineering.
12.3.4	Settlement of disputes or claims in terms of this Clause shall be referred to Arbitration.
12.4.2	In the event that parties fail to agree on an arbitrator, the arbitrator is to be nominated by the President of the South African Institution of Civil Engineering.
13.4	Neither the Employer nor the PSP is liable for any loss or damage resulting from any occurrence unless a claim is formally made within 12 months from the date of termination or completion of the Contract.
15.	The interest rate is the current prime interest rate charged by banks plus 2% per annum and calculated from the due date of payment.

# PART 2: DATA PROVIDED BY THE PSP: TO BE COMPLETED BY THE TENDERER.

Clause	Description / Wording
1.	The PSP is:
1.	The PSP's address for receipt of communications and notices is:
	Address (Postal):
	Address (Physical):
	, ,
	Telephone Number (Work):
	Telephone Number (After Hours):
	Facsimile Number:
	Electronic Mail Address (E-mail):

Clause	Description / Wording		
5.3	The authorised and designated representative of the PSP is:		
	Name:		
	The postal address for receipt of communications is:		
Telephone No:			
Cellular Phone No:			
	Facsimile No:		
	Flectronic Mail Address (F	E-mail):	
	•	•	
5.5 and 7.1.2	The Key Persons and the	ir functions in relation to the Services are	9:
			Duefe esianal Desistantian
	Category of Work	First Name and Surname	Professional Registration Category
		This is and surfame	Compulsory Registration
	Director		
	Professional		Compulsory Registration
	Engineer		Compulsory Posistration
	Professional		Compulsory Registration
	Technologist		Compulsory Registration
	Senior Technician		
			Compulsory Registration
	Junior Technician		
	IT Systems		Not Required - Optional
	Manager		Not Required - Optional
	Senior GIS Specialist		Not Required - Optional
	Junior GIS		Not Required - Optional
	Specialist		
	Environmental		Compulsory Registration
	Specialist		
	Business Analyst		Not Required - Optional
	2 doi:1000 / tridiyot		

Clause	Description / Wording

PART 2 (OF 3): PRICING DATA		
C2.1	Pricing Instructions	58
C2 2	Pricing Schedule	60

CONTRACT

# **C2.1: PRICING INSTRUCTIONS**

C2.1.1 For the purposes of this Pricing Schedule, the following words shall have the meanings hereby assigned to them.

Estimated hours / month: The monthly estimated number of hours per category of work per month.

Rate per hour: The payment per hour per category of work at which the PSP tenders to do the work.

Amount: The product of the Estimated hours per month x the tendered Rate per hour in the case

of monthly costs. In the case of all disbursements, a fixed amount has been estimated.

In the case of the once-off initiation fee, a fixed amount is to be tendered.

Disbursement: An amount allowed for an item and its extent of which is alluded to in the Pricing

Schedule, the Scope of Work or elsewhere, but of which the quantity of work is not known. The payment of disbursements will normally only be done on proof of payment,

work done or expenses deemed to have been incurred by the claimant.

C2.1.2 The quantities set out in the Pricing Schedule are approximate quantities only. The quantities of work finally accepted and certified for payment of the Services and <u>not</u> the estimated hours given in the Pricing Schedule will be used to determine payments to the PSP.

The validity of the Contract shall in no way be affected by differences between the quantities in the Pricing Schedule and the actual quantities finally certified for payment. Work shall be valued at the rates, sums and prices tendered.

C2.1.3 The rates, amounts and sums submitted by the tenderer shall include full compensation for all overheads, profits, incidentals, mandatory taxes (other than Value Added Tax), for executing the work activities, for accommodation, travelling time and expenses, allowance for delays due to inclement weather, data capturing, all liaison required, project management, insurances, for all risk, obligations and responsibilities, complete as specified in the Conditions of Contract and Scope of Work.

Value Added Tax (VAT) shall be excluded from the tendered rates, sums and prices. Provision has been made at the end of the Pricing Schedule for the addition of VAT.

The tenderer shall fill in a rate or a lump sum against each item where provision is made for it even where no quantities are given. An item against which no rate or sum is entered or where a word or phrase such as "included" or "provided elsewhere" is entered will be accepted as a rate of nil (R 0,00) having been entered against such items and covered by the other prices or rates in the Pricing Schedule. Any work executed to which such a payment item applies, shall be measured under the appropriate items in the Pricing Schedule and valued at a rate of nil (R 0,00). The rate of nil (R 0, 00) shall be valid irrespective of any change in the quantities during the execution of the Contract.

Although no work is foreseen under such item and no quantities are consequently given in the quantity column, the tendered rate shall apply should work under this item actually be required. Tenders should note the provisions of Clause C2.1.10.

The tendered lump sum and rate shall be valid irrespective of any change in the quantities during the execution of the Contract.

- C2.1.5 The short descriptions of the payment items in the Pricing Schedule are only given to identify the payment items and to provide specific details. Reference shall, inter alia, be made to the Conditions of Contract, Scope of Work and Drawings (if any) for more detailed information regarding the extent of work entailed under each item.
- C2.1.6 Rates will be subjected to adjustment for inflation as provided for under Clauses 3.16 and 3.17 of the Conditions of Contract, whichever applies.
- C2.1.7 Interim payments for lump sum payment items may be permitted. Such interim payments shall however be limited to proven progress achieved for that particular service deliverable. The sum of any progress payments made under a particular lump sum payment item shall be deducted prior to calculating any adjustments for inflation as described in clause C2.1.6 above.
- C2.1.8 Disbursements shall include only such amounts, for the work, supplies or services, as the Employer shall have instructed.

For each Disbursement, the Employer may instruct plant, materials or services to be procured by the PSP in accordance with the Employer's policies and effect payment to the PSP such amounts included in the Contract Price for the actual amounts paid (or due to be paid) by the PSP, allowing for a 10% handling fee.

The PSP shall produce all quotations, invoices, vouchers, accounts or receipts in substantiation of any claim under a disbursement.

C2.1.9 The rates and lump sums filled in by the tenderer in the Pricing Schedule shall be final and binding with regard to submitting the tender.

Arithmetical errors shall be corrected as stated under Clause F.3.9 of the Conditions of Tender.

In such an event the tenderer will be notified, but failing agreement between the parties, the decision of the Employer shall be final and binding. When applicable, adjustment of the offered total of prices will take place prior to the signing of the Contract. Tenderers are urged to ensure the correctness of their tendered rates and lump sums, the extensions thereof and summation of the offered total of prices.

- C2.1.10 A tender may be deemed non-responsive if the unit rates or lump sums for some of the items in the Pricing Schedule are, in the opinion of the Employer, unreasonable or out of proportion, and if the tenderer fails, after having been notified in writing by the Employer to adjust the unit rates or lump sums for such items, to make such adjustments, or provide a satisfactory explanation as to why the rates are seemingly unreasonable or out of proportion.
- C2.1.11 All rates and sums in the Pricing Schedule shall be in South African Rand and whole cents.

# C2.2: PRICING SCHEDULE: TENDER NO: SCMU10-21/22-0001

PROCUREMENT OF PROFESSIONAL SERVICES FOR THE PROGRAMME MANAGEMENT AND SUPPORT OF THE ROAD ASSET MANAGEMENT SYSTEM (RAMS) REQUIREMENTS FOR A PERIOD OF 3 YEARS

Ref	Category of Work	Estimated hours / month	Rate per hour	Amount
A	Once off initiation fee (migration of existing GIS and Relational Database data into System provided by PSP) System to be fully functional with current data			
В	Mon	thly Costs		
B1	Director	40		
B2	Professional Engineer	60		
В3	Professional Technologist	60		
B4	Senior Technician	40		
B5	Junior Technician	40		
В6	IT Systems Manager	16		
В7	Senior GIS Specialist	40		
B8	Junior GIS Specialist	40		
В9	Professional Scientist (Environmental)	40		
B10	Business Analyst	20		
B11	Admin Support	40		
B12	RRAMS / Field Technician	480		
B13	Travel (Estimated Sum)			R 40,000.00
B14	Disbursements (Estimated Sum)			R 30,000.00
С	Sub-To	otal Monthly Costs	(Sum B1 - B14)	
D		Sub-Total Cost	s Year 1 (C x 12)	
E	Sub-Total Monthly Costs Year 2 (Year 1 Plus Est 5% Escalation - D x 1.05)			
F	Sub-Total Year 3 (Year 2 Plus Est 5% Escalation - E x 1.05)			
G	Sub-Total Year 4 (Year 3 Plus Est 5% Escalation - F x 1.05)			
Н	Sub-Total Year 5 (Year 4 Plus Est 5% Escalation - G x 1.05)			
ı	Sub-Total - Five Years PLUS INITIATION FEE (A + D + E + F + G + H)			
J	Contingencies at 10% (I x 0.1)			
K	Sub-total - Add 10% Contingencies (I + J)			
L	Vat at 15% (K x 0.15)			
М	Final Total to be carried to From of Offer and Acceptance – Add 15% Vat) (K + L			

SIGNED ON DEPART OF THE TENDEREK	SIGNED	ON BEHALF OF THE TENDERE	₹
----------------------------------	--------	--------------------------	---

#### **CONTRACT**

#### PART 3 (OF 3): SCOPE OF WORK

### 3.1 INTRODUCTION

The Department requires services of a suitably experienced Professional Services Provider (PSP) / Consultant to assist with an all–encompassing systems approach to road infrastructure and asset management in the Department over a **period of three years (36 months)**.

Prospective bidders must provide proof of comparable experience in the implementation of road infrastructure asset management approaches in road authorities, as well as **proof of own software** to support road asset management, and provide a team experienced in various fields of road asset management and Road Asset Management System (RAMS). Though not entirely limited to this, the PSP will assist the Department, as described below:

#### 3.2 PLANNED WORK: GENERAL

The PSP will support the Department in all aspects of complying with the annual Provincial Roads Maintenance Grant (PRMG) requirements as amended and published in the annual Division of Revenue Act (DORA), and all requirements for effective road asset management as documented in the Technical Methods for Highways 22 (TMH22) Road Asset Management Manual.

The Transport Planning division will oversee the support of the PSP, while internally, within the Department, raising levels of awareness on asset management.

The emphasis on the work will be to assist the Department to manage the road infrastructure assets under its jurisdiction according to the national requirements; from both the Department of Transport as well as national and Provincial Treasuries. The PSP will assist the Department to develop/review required Road Infrastructure Asset Management Policies, to do annual assessments and gap analysis of asset management maturity and evaluate the Department's capability in all areas of road infrastructure asset management, as well as prepare an improvement plan. The PSP will also advise the Department on the levels of asset management interventions suitable to various infrastructure assets and road classes, within the requirements of TMH22.

The PSP will manage the process of periodic data acquisition, and be responsible for quality control and quality acceptance. The actual data acquisition will be done through separate appointments, and the PSP may not participate in any of these appointments, due to a possible conflict of interest. If required, independent data quality verification may be required, which will then be arranged by the PSP, either as a disbursement, or as a separate appointment, to be determined by the Project Manager, and depending on the extent of the verification required.

The Department's RAMS software is currently based on the EASYRAMS, and historical information on this database must be migrated to the proposed software as a first step. This process must be detailed in the methodology statement of the bidders, and will be reimbursed as a lump sum. It is not considered to be the purpose of this project to develop and supply software for a comprehensive RAMS, but it is rather a requirement to provide a solution to capture, store and process the data as required, so that the PRMG requirements can be complied with, without requiring any extensive system development first.

During the term of the appointment, the PSP will assist the Department to identify RAMS software and hardware improvements to the system, and develop suitable user and functional features.

The management of periodic data acquisition will comprise the following:

- TMH9 and TMH 12 visual condition assessments for paved and unpaved roads respectively
- TMH19 visual assessments of road structures
- Profiling and deflection measurements of the paved roads

- Collection of road inventories of maintainable assets, such as road signs, guardrails, major culverts, gantries and retaining walls, etc
- Bridges and major culvert inspections
- Collection of traffic data (traffic counts) at strategic locations across the Province.

The above-mentioned data will be captured and processed in the proposed RAMS, and utilised to assist in the preparation of the annual Road Asset Management Plan (RAMP). This includes doing a situational analysis, strategic life cycle cost analysis of expected future road network conditions under various policy and budget scenarios, using own life cycle cost analysis and optimisation software, and prepare multi-year preventative maintenance and rehabilitation plans for all forms of road infrastructure.

#### 3.3 DESCRIPTION OF RELEVANT SYSTEMS TO BE PROVIDED BY THE PSP

At least the following RAMS system software shall be made available by the PSP during the contract period (these sub-systems will remain the property of the PSP, but all data will remain the property of the Department and shall be handed over to the Department in usable formats, to be agreed upon, during and at the end of the contract period):

Road Network Identification (RNI): The RNI software shall contain the road network information, describing the start and end of every road under the Department's jurisdiction, as well as the breakdown of roads into appropriate links, by numbered provincial roads crossing and joining, as well as district and municipal borders. The links are described by start and end descriptions, start and end kilometres, road type and road classification. The PSP will assess and update these as necessary. In addition, the current road classification will also be evaluated against TRH26 Road Classification and Access Management (RCAM) requirements, and if necessary, updated accordingly.

<u>Geographic Information System (GIS)</u>: The GIS shall contain all roads on the network, and be suitable to display any data from any of the other sub-systems. The Department will make its current GIS shapefiles available, but the PSP will be required to correct and update these on an ongoing basis.

<u>Traffic Information System (TIS)</u>: The Service Provide will use a suitable TIS to process manual and automatic traffic data, to be made available by the ECDOT, together with historic data, to road usage data required for the RAMS. Should insufficient Traffic Information be made available from the ECDOT, the PSP will be required to manage the collection of such data.

<u>Pavement Management System (PMS):</u> The PSP will use a suitable PMS for providing decision support at a level where life cycle cost analysis of authority and user impacts and economic prioritisation is provided, as well as optimisation under constraints. The PMS shall contain procedures for validating and uploading visual assessment data, profile data and deflection data. The software shall be suitable to assist the Department in planning the preventative maintenance and rehabilitation needs of the urban and rural pavement networks at a high level of asset management, showing the consequences of current decisions regarding policy and budget levels to the road network.

<u>Unpaved Roads Management System (URMS):</u> The PSP will use a suitable URMS for providing decision support where life cycle cost analysis of authority and user impacts and economic prioritisation is provided. The URMS shall contain procedures for validating and uploading visual inspection data. The URMS shall assist the Department in the planning of the preventative maintenance and upgrading needs of the unpaved road network.

<u>Structures Management System (SMS):</u> The Department is currently utilising the STRUMAN Bridge Management System, hosted by the CSIR, and the PSP must have experience in effective operation of this system for all bridges, major culverts and other structures, such as gantries and retaining walls. The Department currently has ±886 bridges and ±1300 major culverts, **but the inventory on other related structures still needs to be developed**.

<u>Inventory Information System (IIS)</u>: The PSP will provide a suitable IIS to capture inventory and condition data for ancillary assets such as road signs, guardrails, and minor drainage structures not included in the SMS.

Borrow–pit Management System (BMS): There are approximately 6000 borrow-pits in the Eastern Cape, of which only around 25% are licensed. The PSP will provide a BMS to capture the location and status of all borrow-pits, with the appropriate classification. All documentation pertaining to the licence conditions for registered borrow-pits and application statuses will be contained on the system and be accessible by users. The PSP will also assist in the registration process of borrow-pits, and this may take the form of developing tender documentation for the application processes relating to the registration process. A registration strategy will be developed by the PSP, and he will be an integral part of the Departmental team in the implementation of this strategy.

#### 3.4 ANNUAL RAMS MATURITY EVALUATION AND ASSET MANAGEMENT LEVELS

The Department is desirous to manage its pavements for paved and unpaved roads at the highest asset management level, aiming at network optimisation, due to the high asset value and costs of maintaining these assets. Structures (bridges and major culverts) will continue to be supported by the STRUMAN system, while ancillary assets can be managed at a lower level of asset management, based on condition-responsive approaches.

A Road Infrastructure Maturity Levels will be developed through consultation with the Department by the PSP, and amended as and when directed. The asset management maturity level will also be assessed annually, as well as the levels of asset management to be applied to various infrastructure and road classes, with a view towards improving the asset management maturity levels.

#### 3.5 DATA COLLECTION SUPPORT REQUIREMENTS

The Department is currently responsible for the maintenance of ±3 808 km of paved and ±37 441 km of unpaved roads. For all data collection, the following will be required:

- Well-documented quality control procedures to be applied by the PSP and implemented by the Data Collection Contractors.
- Well-documented quality acceptance procedures of the PSP, and the results per data type. The PSP will be expected to specifically document and sign off acceptance of the data for all data collection contracts.

**Data Collection Frequencies:** The required data collection frequencies are stipulated in the DORA and TMH22, and these may vary from time to time, and such frequencies will be adhered to during the course of this appointment. At present the minimum data collection frequencies, have been determined as follows:

- **Visual condition assessments:** Visual data shall not be older than two years for RCAM Classes 1 to 3, and not older than three years for classes 4 and 5. However, the Department intends performing visual assessments on all classes on an annual basis for the entire paved network.
- **Profile and Deflection Measurements:** Shall not be older than 2 years for Classes 1 to 3 roads. No deflection measurements are required for Class 4 and 5 roads.
- **Bridge Condition Inspections:** Bridges and major culverts condition data will not be older than 5 years for RCAM Classes 1 to 5.

Other data collection concerns the following:

- Collection of GPS co-ordinates of the road centreline: As and when required.
- Ancillary assets (including road signs, guardrails, minor drainage structures, gantries and retaining walls): A first round inspection has been completed, and further inspections will be done every three years.

Data collection support is described in more detail below:

<u>Visual Condition Assessments:</u> The PSP will assist the Department to obtain standard TMH9 visual condition assessments, according to the most recent TMH9 manual, annually on the paved network, and every three years on the unpaved network. The contractors to perform the inspections will be appointed through the normal Departmental SCM processes. The PSP will prepare the tender documentation and assist with all aspects of the tender. Once a contractor has been appointed, the PSP will ensure the implementation of the necessary quality control and quality acceptance procedures of a Quality Management Plan, as well as the implementation of the approved Health and Safety Plan. All requirements of the TM9 manual will be complied with and the PSP must be qualified for the quality acceptance of the data, or obtain the services of a certified experienced assessor to accept the quality of the data. Data collection will be concluded with the submission of a quality acceptance report.

<u>Profile and Deflection Measurements:</u> The PSP will assist the Department to obtain profile and deflection measurements (roughness, rutting and macro texture). The PSP will prepare the necessary tender documentation and assist with all aspects of the tender, and ensure the implementation of the necessary quality control and quality acceptance procedures of a Quality Management Plan of the appointed contractor, as well as the approved Health and Safety Plan. All requirements of the most recent TMH13 (Network Level Pavement Surveillance Measurements) shall be complied with. Data collection will be concluded with the submission of a quality acceptance report.

Bridge and Major Culvert Inspections: One complete round of bridge and major culvert inspections will be required during the course of this appointment. The PSP will assist the Department to obtain bridge and major culvert inspections. The PSP will prepare the necessary tender documentation and assist with all aspects of the tender, and ensure the implementation of the necessary quality control and quality acceptance procedures of a Quality Management Plan of the appointed contractor, as well as the approved Health and Safety Plan. All requirements of the most recent TMH19 (Manual for the Visual Assessment of Road Structures) shall be complied with. Data collection will be concluded with the submission of a quality acceptance report.

Other Ancillary Assets such as road signs, guardrails, drainage structures, gantries and retaining walls: The PSP will assist the Department to update and maintain inventories of these items. The PSP will prepare the necessary tender documentation and assist with all aspects of the tender, and ensure the implementation of the necessary quality control and quality acceptance procedures of a Quality Management Plan of the appointed contractor, as well as the approved Health and Safety Plan. All requirements of the most recent TMH22 (Road Asset Management) shall be complied with. Data collection will be concluded with the submission of a quality acceptance report.

<u>GPS co-ordinates of road centrelines:</u> The PSP will assist the Department to update and maintain GIS co-ordinates of the road infrastructure network, in order that the GIS corresponds fully with the Road Asset Register. The PSP will prepare the necessary tender documentation and assist with all aspects of the tender, and ensure the implementation of the necessary quality control and quality acceptance procedures of a Quality Management Plan of the appointed contractor, as well as the approved Health and Safety Plan. All requirements of the most recent TMH22 (Road Asset Management) shall be complied with. Data collection will be concluded with the submission of a quality acceptance report.

After each major GIS related activity, the PSP will be expected to clean out the data during import to the GIS and ensure a fully synchronised GIS, RNI and asset register.

**Borrow-pits:** The PSP will provide a BMS to capture the location and status of all borrow-pits, with the appropriate classification. All documentation pertaining to the licence conditions for registered borrow-pits and application statuses will be contained on the system and be accessible by users. The PSP will also assist in the registration process of borrow-pits, and this may take the form of developing tender documentation for the application processes relating to the registration process. A registration strategy will be developed by the PSP, and he will be an integral part of the Departmental team in the implementation of this strategy.

<u>Traffic Data Collection:</u> Traditionally all traffic information on the Eastern Cape Roads Network has been captured by the Department of Transport, however, the PRMG has stringent requirements that such data is suitably current. For this reason, the PSP will be required to oversee the collection of traffic data on certain parts, or all of the network. Such data collection will most likely take place through another PSP, who will in turn be managed through this appointment.

#### 3.6 SITUATIONAL ANALYSIS

The data processing requirements and situational analysis are described fully in TMH22, and must be followed as far as possible, with any deviations being well documented and justified.

<u>Data validity, accuracy and integrity checks of all collected data:</u> The PSP shall introduce formal validation procedures, accuracy checks and integrity checks before importing the data to its RAMS software components. The nature of these and the results thereof shall be well documented for each data type.

**Processing of data and calculations of indices:** All data shall be processed according to TMH22, and all applicable engineering condition indices must be calculated, whether composite, bundled and functional in nature. As a minimum, condition indices are expected for paved roads, unpaved roads, structures and ancillary components, as well as functional indices, such as capacity, ride quality, user risks and road safety.

<u>Situational Analysis:</u> the PSP will do a situational analysis as described in TMH22. The road network extent, usage, current conditions, comparative conditional analysis for distresses and condition trends shall be assessed, and compared to minimum condition and functional levels for various road infrastructure. User costs shall be calculated, using factors such as excess user costs, capacity delays, accident costs, remaining useful lives, Current and Depreciated Replacement Costs (CRC, CRDC). The situational analysis shall lead to problem statements regarding predominant problems for each class of asset type. The full process and results shall be documented with specific focus on the problem statements.

The situational analysis shall advise the Department on suitable Key Perfomance Indicators for routine, preventative, emergency maintenance and rehabilitation. It is also expected to identify any linkages to socio-economic factors.

#### 3.7 INVESTMENT NEEDS DETERMINATION

The PSP will determine the investment needs for all infrastructure assets as described in TMH22. The categories of needs are:

- Cyclical routine and periodic maintenance
- Event driven routine maintenance
- Engineering condition responsive needs for routine maintenance, resurfacing, re-gravelling, special maintenance, rehabilitation and reconstruction
- Function condition responsive needs for betterment, expansion and upgrading
- New infrastructure, roads and new ancillary assets.

The needs determination shall address each category of need and allocate funding based on a rational and scientific approach. The determination shall include consideration of the functional class of the road, as well as traffic volumes.

The needs determination shall include the following:

- A technical / engineering needs determination, based on condition-responsive approach, or unconstrained life cycle cost benefit analysis, with the purpose of identifying the extent of the funding backlog when compared to planned funding levels of the Department.
- A life-cycle need determination, considering maintenance alternatives / strategies to maintain, improve and repair assets over a life-cycle period. Network optimisation shall be aimed for, requiring a life cycle cost benefit analysis and optimisation procedure to analyse various policy and budget scenarios.

The requirements for the roads pavement analysis will require suitable software capable of doing life cycle cost benefit analysis, typically based on an incremental benefit / cost method. A strategic analysis of consequences and various budget scenarios, and policy scenarios, shall be done in co-operation with the Department.

The PSP will be required to document the needs determination for all asset types, with regard to unit costs, quantifying benefits, optimisation approach, trigger levels, etc.

The required capabilities of the analysis / decision support software shall be as follows:

- Allow strategic analysis of the paved road needs.
- Allow the South African unpaved steady state models to be used in the strategic analysis of the unpaved road's needs
- Allow calibrated vehicle operating cost models to be captured.
- Allow treatments and triggers to be captured.
- Determine multiple strategies for preventative maintenance, special maintenance and rehabilitation for every road segment.
- Allow the benefits of different strategies to be quantified.
- Allow a benefit function to be specified for the optimisation (maximisation of condition of paved roads, minimisation of total transport costs for unpaved roads).
- Use true or heuristic optimisation principles.
- Incorporate an efficiency frontier for every road segment, of benefits versus cost of various treatment strategies.
- Quantify long-term consequences of various budget scenarios for paved roads, at least in terms of the predicted future road network condition, predicted future change in asset value, condition distribution and expected vehicle operating costs and excess vehicle operating costs.
- Quantify long-term consequences of various budget scenarios for unpaved roads, at least in terms of the predicted future gravel thickness, predicted change in asset value, gravel thickness distribution and expected vehicle operating costs and excess vehicle operating costs.
- Determine the required budgets to maintain the road network in a specified condition (a key performance index for the network).
- Identify and quantify any risks and consequences thereof.
- Determine the optimal distribution for funding allocation between paved and unpaved roads.
- Determine the optimal distribution for funding for resurfacing, special maintenance and rehabilitation for a given budgetary cycle.
- Determine the optimal distribution for funding for blading, re-gravelling and upgrading for a given budgetary cycle.
- Prepare a multi-year preventative maintenance and rehabilitation plan for paved roads for a selected budget scenario
- Prepare a multi-year preventative maintenance and rehabilitation plan for unpaved roads for a selected budget scenario.

The output requirement of the analysis / decision support software must be displayed graphically for ease of presentation, for all asset categories where applicable.

### 3.8 PANEL INSPECTIONS

The PSP will be expected to attend panel inspections for selected projects, and will be required to provide the necessary suitably qualified staff to contribute meaningfully to the outcome of such inspections, as well as performing the secretariat function at these inspections.

### 3.9 REPORTING FORMAT FOR THE RAMP

The format for reporting on the RAMP is determined in TMH22, which may be amended from time to time. The most recent format is shown below, and the most current version must be adhered to as far as possible. At least two iterations of the RAMP will be required in every financial year.

The table below shows the technical requirements to be incorporated in the RAMP:

Executive Summary The Constitute Summary about a particular the Law issues and appropriate the law is a second appropriat	
The Executive Summary should emphasize the key issues and recommendations	
contained in the body of the RAMP and provide a concise overview of the entire	
plan.	
Section 1: Introduction 1.1 Statement	
The custodian of the road infrastructure should state:	
The name of the owner of the road infrastructure	TMH22 – Definition for 'owner' (in GIAMA referred to as 'Custodian')
the name of the custodian of the road infrastructure assets (the name of the Road Authority)	TMH22 – Definition for 'custodian' (in GIAMA referred to as 'User')
<ul> <li>the name of the infrastructure unit of the Road Authority that prepared the RAMP</li> </ul>	
<ul> <li>the road asset management level being practiced by the Road Authority (if different for asset types, then provide a tabular listing)</li> </ul>	TMH 22 – A.3.3 Levels of Asset Management
<ul> <li>the names and qualifications of the official/s of the Road Authority that supervised the preparation of the RAMP</li> </ul>	
<ul> <li>that the Road Authority has prepared and signed a 'Road Asset Management Policy' document of which a copy is attached as Appendix A</li> </ul>	TMH22 – A.3.1 Policy
that the declaration of the age of the data and the quality thereof is attached as Appendix B and signed by the Road Authority	To confirm the age and quality of the data
<ul> <li>that the Declaration of Appendix B is also completed regarding other matters of the preparation of the RAMP</li> <li>that the gap analysis of the asset management maturity level of the Road Authority is attached as Appendix C</li> </ul>	To confirm the status of asset management by the Road Authority, at the time of the preparation of the RAMP
1.2 Background	
Provide an overview of what is being addressed in the RAMP. This is in fact a problem statement. It should also give a chronological pedigree into the problem.	Provide a high level overview. The service delivery model should influence the plan. Refer to this and any salient features of the delivery model.
1.3 Goals and Objectives of the RAMP  Provide the reasons and justifications as to why it is necessary to manage the road infrastructure in support of the relevant owner authority functions.	

#### 1.4 RAMP Framework

This is a listing of the content of the RAMP, with a very brief summary of each section that provides the reader with a guide or road map for structured reading.

For assets managed at Level III asset management, the RAMP would only be for a few years; for assets managed at Level IV and higher, the RAMP should be for 10 years. The RAMP should be updated annually.

#### 1.5 Planning Approach and Methodology

Describe the Road Authority's planning approach for identification of needs for maintenance and rehabilitation of existing infrastructure, and needs for betterment, upgrading and new infrastructure. Include the modeling skills necessary to develop scenarios of future needs and elegant solutions to the problems. Includes a brief description of the Road Authority's computer systems (RAMS, but see comment right), its functionalities and state of readiness to achieve the outlined objectives.

This is a U-AMP (custodian), note if a strategic planning process was held with the owner (C-AMP) for alignment to strategic service delivery objectives of the owner.

TMH22- A.3.7 RAMS encompasses much more than the computer systems required to manage the asset data and related algorithms, procedures and reports.

GIAMA, Act 19 of 2007, Sections 6 and 7

#### Section 2: Road Network

Present all the road networks within the area of jurisdiction of the Road Authority as well as the section of the network that the Road Authority of this RAMP is accountable for. Specific reference to road networks of any higher road authorities also represented in the area of jurisdiction should be made, as well as lower level road authorities. These should all be listed, providing the broader context within which the Road Authority operates as custodian, but perhaps also providing support to other road authorities.

The road network of the Road Authority should be represented through a GIS map (only showing which roads are under the jurisdiction of the Road Authority), as well as in tabular summary format – list clearly as road km <u>and</u> carriageway km lengths per road type.

TMH22 – PART F.2 Extent of Assets

For carriageway km lengths, both the carriageways of dual roads and divided roads are added to the total length

#### Section 3: Level of Service

Minimum conditions and service levels are set by National Government and updated from time to time. In setting these conditions the needs of users as well as socioeconomic factors, risks and the consequences of failure are considered.

The TMH22 document discusses data collection issues for usage and condition data, and the status of these, as used in this RAMP, shall be declared in Appendix A to this RAMP. The purpose of the declaration is inter alia to have a record of the age and quality of the data

The TMH22 document also reflects the minimum standards for road infrastructure condition and functional condition, in general per RCAM class of road, and expressed as condition and functional indices. It also reflects intervention levels for treatments. Section 3 should contain a summary of minimum conditions and standards used for this RAMP. Where different standards are aimed for, these should be discussed, with motivations regarding these different target levels. Where the same standards as published in TMH22 are used, this fact should be confirmed. Where no standards are provided in TMH22, the standards used should be presented. A table indicating the various indices per road class, the published values of TMH22 and values used in the RAMP with motivations where different, would suffice. Where different approaches are used than published in TMH22 (e.g. in summarizing indices) these should be documented.

Section 3 should also document any changes to levels of service, as published in DORA of any particular year, and applied (or not applied) in preparation of this RAMP.

It may be necessary to lower some standards currently given budget constraints and asset conditions. If so, this should be stated here, and the plan to achieve standards in the longer term documented here. This will be known once Section 5 has been completed.

TMH22 – PART D Usage and Condition Data

TMH22 – PART F, F.7 provides minimum condition and service levels, per road class.

#### Section 4: Situational Analysis (Current asset condition and performance)

This section should present a situational analysis, comparing actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state).

The situational analysis is a very important part of the RAMP. It will concern analyzing of the collected data, processing thereof to the various indices, followed by comparisons to various levels of service as documented as minimum targets.

The situational analysis will, necessarily, be RCAM classification driven. It assumes that the RCAM classification has been properly completed (refer the Declaration, Appendix B). Note however that the RCAM classification uses a 'future year' classification approach, ie roads are classified according to their future required classification, but this normally only affects a minimum number of roads. It should be documented which roads are classified higher than their current RCAM classes, and if substantial, the situational analysis should rather be done in terms of the 'current classification' based on the current functions. .

The situational analysis will include, as a minimum, a number of tables, all supported by clear graphs of the tabular data and clear descriptions of general and note-worthy aspects. Apart from comparisons per RCAM class, comparisons per administrative areas may also be required to obtain an understanding of the relevant differences among the areas. Graphs showing road lengths or asset numbers should be used, but graphs showing percentages may in some cases be more expressive.

4.1 Inventory Data

- A tabular summary of the road network under jurisdiction of the Road Authority, per road type and RCAM class, or per administrative area. In addition, state the length proclaimed and un-proclaimed per class and type and being maintained. Also state what lengths are under the jurisdiction of the Road Authority, but not maintained. To avoid confusion, show road lengths as well as carriageway lengths and lane lengths. Suitable GIS maps can also display road types, RCAM classes, proclaimed and un-proclaimed, maintained and unmaintained roads.
- A tabular summary of the numbers of other assets being maintained, eg bridges, major culverts, road signs, gantries, etc, or lengths of linear assets being maintained, per road type and RCAM class or administrative area.
- A tabular summary of the age of the assets, per asset types, if necessary per component types.

4.2 Usage of the Assets

A tabular summary of the usage of the assets, per road type and RCAM class (or administrative area), in AADT and vkm (based on carriageway lengths). Suitable GIS maps can also portray asset usage; others can display public transport and freight corridors. For confirmation and context, AADT of higher road authority roads should be obtained and shown in GIS maps as well.

4.3 Engineering Condition of the Assets

These concern engineering indices. Reporting should be in tabular summaries and graphs, in terms of the condition categories, typically per road type and RCAM class and administrative area and for the network as a whole. Lengths should be in terms of carriageway lengths. The indices to be included should be at least the following.

- The condition of the road links, in terms of the various condition indices, per component.
- The condition distribution (lengths and percentages in very good, good, fair, poor and very poor).

TMH22 – PART F Situational analysis

TRH 26, RCAM

TMH22, PART F.2 Extent of the assets

TMH22, PART F.3 Usage

TMH22, PART F.4 Current Conditions

- The profiling measurements, in categories.
  The deflection measurements, in categories.
- The texture measurements, in categories.
- The condition of the structure assets (bridges, major culverts, etc), in terms of the various condition indices, per asset type.
- The condition of the ancillary components, in terms of the various condition indices, per component.

#### 4.4 Functional Condition of the Assets

These concern functional indices. Reporting should be in tabular summaries and graphs, in terms of the functional categories, typically per road type and RCAM class and administrative area and for the network as a whole. Lengths should be in terms of carriageway lengths. The indices to be included should be at least the following.

TMH22, PART F.4 Current Conditions

- Volume capacity or HTM.
- Riding quality
- Skid resistance
- Macro texture (MPD)
- Personal injury accident or NETSAVE
- Smooth Travel Exposure.
- Low Rut Exposure.
- High Texture Exposure
- Functional indices for structures (bridges, major culverts, retaining walls, gantries, tunnels, etc)
- Overall Bridge Condition Exposure.

#### 4.5 Comparative Conditions

There are several graphic tools that can be used to display comparative conditions for each type of distress or index where specific issues have to be pointed out in the development of the RAMP. These should be included here.

TMH22, PART F.5 Comparative conditions

### 4.6 Vehicle Operating Costs and Excess User Costs

The Vehicle Operating Cost for the network as a whole should be calculated for light and heavy vehicles separately, in Rand per km. It should also be calculated per RCAM class and road type, and if considered appropriate, per administrative area, and displayed in tabular and graph formats.

TMH22, PART F.10, Vehicle Operating Cost and Excess User Costs.

Excess User Cost should be calculated as well, with a specific statement of what IRI value was used to calculate the EUC. It can also be calculated per RCAM class and road type, for the network as a whole or per administrative area.

#### 4.7 Asset Valuation

The RAMP should provide information on the valuation of the infrastructure assets. This should include the replacement value of the assets, as well as the depreciated replacement value.

The Current Replacement Cost (CRC) should provide a fair and reasonable value of what it would cost to replace the asset based on recent construction cost of similar assets. Unit rates should include mark ups for planning, design and administration. The Depreciated Replacement Cost (DRC) or current asset value should be calculated

The Depreciated Replacement Cost (DRC) or current asset value should be calculated for financial reporting as the product of the CRC and the RUL/EUL ratio, where RUL is the remaining useful life of each component as determined from its condition and the age of the asset and its depreciation curve, and EUL is the expected useful life for each component type of each standard. Published expected useful lives for each component type should be used initially for EUL, but should be adjusted later based on actual condition data of the component type.

Graphic displays of DRC vc CRC for various asset types should be provided in this section. It would provide a comparison of the relevant values of the various asset types, as well as the depreciation of each asset type.

TMH22, PART C Asset Valuations

TMH22, PART F.12 Depreciated Asset Values

4.8 Remaining Useful Lives of Assets	
Financial reporting requires the calculation of remaining useful lives (RULs) of assets.  The RUL is the life left from the current condition index to a condition index of zero at	TMH22, PART F.12 Depreciated Asset Values.
which point the component has no remaining useful life.	
Power curves should be used for performance prediction. Typically, for road asset	
components an exponent of 2 is used for the various components except the	
formation where straight line depreciation is normally representative of the	
usefulness of the formation over time.	
Apparent age calculations and EUL adjustments should be done before RUL	
calculations are finalised.	
Graphic displays of percentage of assets with RUL in various age categories should be	
provided in this section.	
4.9 Risks	
Risk calculations on network level are not currently required. However, it should not	TMH22, F.7 Minimum
deter asset managers from stating potential high risks due to condition failure of	Conditions and Service Levels
assets, capacity failure, level of service failure and budget failure.	
4.10 Trend Analysis	
Trend analysis forms an important part of any situational analysis and concerns	TMH22, PART F.6 Condition
comparison of current and historic indices. Trend analysis assists to show the	trends
effectiveness of previous asset management plans, and should be done for condition	
and functional analysis of all assets.	
Trend analysis graphs should show the distribution of condition of the roads in each	
historic year including the latest, allowing trends to be discerned, for taking into	
account in the RAMP preparation. The graphs should be produced for the entire road	
network as well as per administrative area and RCAM class.	
The summarised indices for the whole network or parts of the network should also be	
displayed for the years of assessment.	
The trend analysis should include clear descriptions of general and note-worthy aspects.	
aspects.	
4.11 Performance Gap Analysis (Problem Statements)	TMH22, PART F.13 Problem
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and	TMH22, PART F.13 Problem Statements
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented	TMH22, PART F.13 Problem Statements
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.	
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices	Statements
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition	TMH22, PART F.8
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas,	TMH22, PART F.8 Summarising Indices
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.	TMH22, PART F.8 Summarising Indices
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination Demand and need determination is splitted in two, dealing firstly with need	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets  The basis of the need determination for current assets should be the situational	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices  TMH22, PART A.3.3 Levels of
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets  The basis of the need determination for current assets should be the situational analysis of Section 4, specifically the gap analysis / problem statements of 4.11. The	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets  The basis of the need determination for current assets should be the situational analysis of Section 4, specifically the gap analysis / problem statements of 4.11. The need analysis should be aimed at least at Asset Management Level III, but Road	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices  TMH22, PART A.3.3 Levels of
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets  The basis of the need determination for current assets should be the situational analysis of Section 4, specifically the gap analysis / problem statements of 4.11. The need analysis should be aimed at least at Asset Management Level III, but Road Authorities with primarily higher order roads should aim for Level IV and higher.	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices  TMH22, PART A.3.3 Levels of
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets  The basis of the need determination for current assets should be the situational analysis of Section 4, specifically the gap analysis / problem statements of 4.11. The need analysis should be aimed at least at Asset Management Level III, but Road Authorities with primarily higher order roads should aim for Level IV and higher. However, differentiation in asset types would also be possible, for example that	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices  TMH22, PART A.3.3 Levels of Asset Management
4.11 Performance Gap Analysis (Problem Statements)  The main purpose of the situational analysis is to compare actual conditions and service levels being provided (the current state) against the minimum as documented in Section 3 for this RAMP (the minimum state). This is done by comparing the above statistics with requirements that are set for each RCAM class of road and each type of condition indicator.  All the graphs and trends should be analysed to discern and summarise the predominant problems and prepare the problem statements. It should be done such that it focuses the attention of asset managers and decision makers on these problems. Bullet point summaries, supported by graphical displays and where relevant GIS maps (to highlight spatial inequalities or differential problems) should be used to present the performance gaps.  4.12 Summarising of Indices / Determining Composite Indices In all cases it should be stated what approaches were used to summarise condition and functional indices to network level indices, eg per asset, per administrative areas, per RCAM class or per full network.  Section 5: Demand or Need Determination  Demand and need determination is splitted in two, dealing firstly with need determination of current assets, and secondly dealing with need determination for new assets.  5.1 Need Determination for Current Assets  The basis of the need determination for current assets should be the situational analysis of Section 4, specifically the gap analysis / problem statements of 4.11. The need analysis should be aimed at least at Asset Management Level III, but Road Authorities with primarily higher order roads should aim for Level IV and higher.	TMH22, PART F.8 Summarising Indices TMH22, PART F.9 Composite Indices  TMH22, PART A.3.3 Levels of

The needs determination should address each category of need and allocate funding based on a rational and scientific approach. The determination should include consideration of the RCAM functional class of the road as well as the ruling traffic volume.

Need determination should consider all of the following:

- Cyclical routine and periodic maintenance needs: Use algorithms to determine these with differentiation by RCAM class, weather and traffic sensitivity
- Event driven routine maintenance needs: Use historic information to determine estimates of repairs at short notice
- Engineering condition responsive needs: Determine the needs for routine maintenance, resurfacing, regravelling, special maintenance, rehabilitation and reconstruction based on engineering condition data in a technical needs analysis based on intervention levels and treatment selection rules (unconstrained budget scenario), as well as for other budget scenarios including the current budget, and various budget scenarios to demonstrate impact of budget scenarios on asset users, the assets and the Road Authority
- Functional condition responsive needs: Determine the needs for betterment, expansion and upgrading based on functional condition data in a technical needs analysis based on intervention criteria such as traffic, accident data, volume/capacity analysis, etc
- New roads and new ancillary assets: Refer 5.2

#### **Technical Needs Determination**

The mentioned technical needs analysis and its resultant investment needs per need category should serve as basis for comparing the current budget and its splits amongst treatment (need) categories against. This provides the budget shortfall in total and per need category and evaluates the allocations of the current budget to the various need categories. These budget shortfalls should be displayed in tabular and graphic format.

The technical needs analysis is typically of immediate to short-term duration and does not address future needs based on performance prediction, unless done through a Life Cycle Cost Benefit Analysis, where the first treatments of strategies over a short term (1 to 5 years), under no budget constraints, are considered as the technical needs. Such an analysis is not required nor possible for Level III asset management.

Life Cycle Needs Determination

The determination of the life cycle needs is required for Level IV and higher asset management. A Life Cycle Cost Benefit Analysis (LCCBA) can only be done through suitable software that allows capturing / configuration of performance prediction models, triggers / intervention levels, strategy generation with user and engineering benefit quantification, as well as life cycle cost, specifying of benefit function, network optimization.

The LCCBA is part of the strategic analysis and the following analyses should be done to obtain an understanding of the impacts of the policy and budget scenarios on the road users, the road assets and the Road Authority:

The current budget, optimized, determining its impacts and the optimum investment allocation per treatment category, also for comparison with any planned allocation of the current budget by the Road Authority (see next bullet); maximizing preservation of the assets and minimizing total transportation costs (road user and Road Authority costs)

TMH22, PART G.3(a) Maintenance

TMH22, PART G.4 Technical **Needs Determination** TMH22, PART G.5 Life Cycle **Needs Determination** 

TMH22. PART G.4 Technical **Needs Determination** 

TMH22, PART G.4 Technical **Needs Determination** 

TMH22, PART G.5 Life Cycle **Needs Determination** TMH22, PART G.6 Decision **Support Systems** 

TMH22, PART G.9.2 Strategic planning and outputs

TMH22, PART G.7.1 Project ranking

- The current budget, not optimized, determining its impacts due to the planned allocation of the current budget to the need categories by the Road Authority
- The level of service and standards needs analysis, determining its impacts and the optimum investment needs per treatment category to achieve the level of service and standards of Section 3
- Any other policy and/or budget scenario analysis that might be necessary to demonstrate how improved network performance can be obtained through policy (including level of service and standards) and budget adjustments. This includes a re-analysis of the level of service and standards needs analysis should any of these be lowered for any of the RCAM classes as an interim measure.

The results of these analyses should be graphic and tabular displays of:

- Level of service and standards indices, showing both historic and expected future values, for the analysed scenarios
- Road user impacts for the analysed scenarios
- Expected budget impacts on selected level of service indices 5 and 10 years from now
- Expected backlogs<sup>1</sup> likely for the analysed scenarios

The outputs of the strategic analysis should be presented to top management and a final decision should be obtained regarding the most likely investment scenario for the next 10 years.

For Level III asset management ranking within the various treatment categories should be done according to economic parameters.

The 'specification' of each LCCBA should be documented for reporting with the strategic results and the tactical multi-year maintenance and rehabilitation plans (refer Section 6). The following should be recorded:

- A description of the analysed scenario and its purpose
- The total budget of the scenario
- The decision support system used
- The performance prediction models used
- The unit costs used
- The objective function used
- The discount rate used
- Whether financial inflation was incorporated in the analysis
- The triggers used to identify treatments
- The analysis period
- The quantification of benefits
- The optimization method
- 5.2 Demand for new assets

Describe the basis of demand determination given national road policies (ie RISFSA), provincial and local strategic development plans that are likely to influence demand (the increase or reduction of demand). Economic and social strategies influence demand, also spatial development initiatives and land use developments. A good understanding of these issues should help to identify demand and therefore allow planning to be done accordingly.

TMH22, PART G.6 Decision support systems TMH22, PART G.5.1 Elements of a LCCBA; PART G.9.4 Pavement Performance Prediction TMH22, PART G.8.3 Unit costs TMH22, PART G.8(a) Network Optimisation TMH22, PART G.5.1 Elements of a LCCBA TMH22, PART G.5.1 Elements of a LCCBA TMH22, PART G.5.1 Elements of a LCCBA TMH22, PART G.8(a) Network Optimisation TMH22, PART G.8.4 **Quantifying Benefits** TMH22, PART G.8(b) Optimisation methods

<sup>&</sup>lt;sup>1</sup> Backlog is defined as the percentage of an asset, or asset component, in a poor and very poor condition

Demand planning should also take into account the backlogs in road infrastructure provision that exist as well as issues of accessibility to economic and social amenities.

#### **Demand Management Plan**

This is a gap analysis, where the Road Authority has to provide more infrastructure to match the need for it. Besides matching infrastructure needs, this should be a reflection of how the balance will be established between increasing and decreasing demand where appropriate. This should be influenced by full understanding of overall strategic development priorities, population trends, transport modes, etc.

#### Changes in Technology

These are labour intensive technologies that are directly associated with road construction and their effect on productivity both in terms of physical quantity and labour output.

#### **Demand Forecast / Anticipation**

Demand is both current and future. It could be that the Road Authority is meeting the current need but, at some time in the future, it will not be capable to meet the then current demand. Failure to meet current demand may be due to backlogs. This should be indicated and addressed in this section. Careful consideration should be given to alignment with broader national, provincial and local strategic future plans.

Should any new roads or infrastructure facilities be planned for the next 10 years, these should be noted and costed for inclusion in the RAMP.

#### **Section 6: Asset Management**

The strategic analysis of Section 5 should lead to a decision on the final budget stream most likely being available for the next 5 to 10 years. The agreed multi-year tactical plans based on this approved budget stream for the management of the road infrastructure assets should be included in this section. For Level III asset management, it includes typically short term plans for the next year or two only. For Level IV and higher, it includes multi-year optimized plans for the various treatment categories. Prior to the finalization of the plans, consideration should be given to 'project built-up':

- Confirmation of treatment recommendations through panel inspections, where appropriate; or more detailed engineering investigations for more costly treatments (which might move these candidates to later years due to time required for design and contractor procurement)
- Compilation of more viable projects, through merging of candidate projects across treatment types and years to increase project lengths
- Inclusion of identified work for structures with road projects
- Fair distribution of funds among administrative areas
- Time required for environmental approvals
- Other social considerations

On completion of the above, multi-year plans should be available for:

- Cyclical routine and periodic maintenance needs (not per road)
- Event driven routine maintenance needs (not per road)
- Engineering condition responsive needs for routine maintenance (not per road), resurfacing, regravelling, special maintenance, rehabilitation and reconstruction (all per road)
- Functional condition responsive needs for betterment, expansion and upgrading (per road)
- New roads and new ancillary assets (per road)

The actual plans for each of these could be included in appendices to the RAMP, but the investment needs for the various treatment categories as planned for the next 10 years should be summarized in tabular and graphic displays.

A description on how information for the RAMS would be updated and managed throughout the infrastructure service lives should be included here as well.

It is a specific requirement that roads that has been ceded or transferred over the last few years to other road authorities, or planned for transfer in the 10 year planning horizon of the RAMP, be listed with reasons. Tabular listing is recommended, and if relevant due to significance also displayed in GIS.

TMH22, PART G

#### **Section 7: Financial Summary**

This section summarises the financial requirements discussed in the preceding sections 5 and 6 of the RAMP, as finalized in Section 6. Road Authorities should present only the selected investment scenario.

Financial Statements and Projections

These should be prepared for at least 10 years and include:

- Cash flow forecasts by year, at programme level
- Breakdown of expenditure by:
  - Cyclical routine and periodic maintenance needs
  - Event driven routine maintenance needs
  - Engineering condition responsive needs for routine maintenance, resurfacing, regravelling, special maintenance, rehabilitation and reconstruction
  - Functional condition responsive needs for betterment, expansion and upgrading
  - New roads and new ancillary assets
- Breakdown of expenditure by routine maintenance, planned maintenance and new works expenditure
- Expenditure trends from the previous 2 to 3 years.

#### Funding strategy

Provide a summary of funding sources, and amounts for the 10 years:

- Grants (named)
- Government Fiscal funding (e.g. Equitable Share)
- Alternative revenue sources (specify and for what purposes)

#### Section 8: Organisational and Support Plan Structure

This shows the Road Authority's capability to effectively execute the RAMP. The principle of organizational Needs, Supply and the resultant Gap should apply.

The Road Authority should specify:

- the human resource it requires;
- the organisational structure within which this human resource is to be deployed;
- the cost of maintaining the functionality of the Road Authority; and
- the systems and processes it requires, i.e. information management systems required or used to manage road assets (software and files).

#### **Human Resources**

The Road Authority should report on:

- The human resources required to support the implementation of their RAMP;
- The required skills levels; and
- The number of human resources available to the Road Authority

## Organisational

The RAMP should spell out the envisaged type of organizational structure and provide an organogram to support implementation of the RAMP.

#### Financial

The costs associated with the RAMP should be quantified.

#### Systems and Processes

This section should provide an outline of the asset management information available, the information systems used (i.e. software, files) and the process used to make asset management decisions.

This section should also show the efficiency, or lack thereof, of the available systems and processes that the Road Authority possesses. A lack of systems has, as a consequence, that some functions that the Road Authority should carry out would get overlooked. In order to report this, the information flow requirements and processes should be indicated and where there are gaps.

#### **Section 9: Plan Improvement and Monitoring**

The intention is that the RAMP itself should be critically reviewed in future years. There should be clear key areas that are being monitored and key indicators that should help determine if there is improvement. These should be guided by the agreed key strategic objectives and priorities for that particular period.

#### **Performance Measures**

The Road Authority should measure the accuracy and effectiveness of the RAMP and, in this section of the Plan, describe how this would be done. Included in this section should be clear effective indicators based on the elements of the plan. These would be monitored and evaluated. Ultimately they should influence the improvement actions.

#### **Improvement Programme**

Having identified any weaknesses that may exist in the current version of the Plan, the Road Authority should then provide details of actions that will be taken to improve the accuracy and confidence in the Plan. The improvement areas should be categorized per identified gaps. Further, there should be achievement targets.

### Monitoring and Review Procedures and Reporting

The procedures to be set in place for monitoring and a timetable for reporting on the outcome of monitoring should be put in place. Typically, the initiation of the updating of the RAMP should be preceded by an in-house review of the performance of the previous year's Plan.

#### Section 10: Job Creation and Skills Development

In the context of South Africa the roads sector is identified as one of the sectors that should drive job creation. This is through creation of employment opportunities in road infrastructure asset maintenance, repair and reconstruction. Based on the decision to maintain or repair road infrastructure assets or construct a new road, the Road Authority should be able to report on the number of jobs created. These should also be categorised per number of women and youth employment opportunities as well. Skills development in the roads sector for young engineering graduates is also one of the objectives of the Road Authority and National Government. These should be reflected in the plan since it is one of the priorities.

#### **Number of Jobs Created**

This section of the plan should provide the number of jobs created during maintenance, repair and new construction of road assets over the previous year/s of the RAMP. The number of jobs should be categorised and specifically include women and youth. Secondly it should reflect the type of skills gained.

#### Skills Development for Young Graduates

This section of the plan should reflect the number of graduates that has been employed over the previous year/s of the RAMP. Secondly there should be a reflection of practical skills sets that has been gained.

	tor Development / Small Enterprises	
	tion should reflect the progress made on contractor development as a result	
	infrastructure maintenance, repair and new construction. The reflection	
	be in a form of the number of job opportunities created as reflected in the	
Output	section of the DORA Bill.	
	11: SWOT Analysis	
	nere is an indication of strengths, weakness, opportunities and threats in the	ļ
	sections of the plan, an integrated SWOT Analysis should be done. The	
	should consider the road infrastructure assessed, the strategic objectives of	
	d Authority, the financial requirements as well as the institutional and	
organisa	itional capacity of the Road Authority.	
	12: References and Appendices	
	e of documents used as source material for RAMP development needs to be	
	ted. References should be recorded in sufficient detail so that readers in the	
future w	vill be able to access them without difficulty.	
Referen		
rne suit	e of documents used as source material for the RAMP should be referenced.	
Appendi		
	criptive text of the various sections of the RAMP will include logical argument,	
	ons drawn and intentions described. The detail on which the arguments are	
	typically contained in appendices.	
	ix A: Road Asset Management Policy ix B: Declaration	
	ix C: Gap Analysis of Asset Management Maturity Level	
	upporting appendices to be added here.	
	NX B: Declaration	
The Road Authority should declare the following:		A declaration shall
•	The name of the infrastructure unit that prepared the RAMP	accompany the RAMP as Appendix B
•	The road asset management level at which the RAMP was prepared (if	
	different for different asset types, list individually)	
•	The names, qualifications and relevant work experience of the officials and	
	technical consultants that prepared the RAMP	
		TMH22 - PART D.5.3
•	The specific data sets that were collected for the RAMP, the completeness	
	and the maximum age of data in each of the data sets (show an age analysis)	
	- state compliance with TMH22 (inventory data, asset condition data (visual	
	and surveillance), asset usage data, asset valuation data)	
	,,,	TMH22 – PART B.7
•	The names of the officials and technical consultants that collected each of	
	the above data sets	TRH 26 RCAM
		TMH22 – PART
•	The names of the officials and technical consultants that declared each of the	
	above data sets as acceptable in terms of the Data Quality Management Plan	
	for each of the data sets	
•	That a Fixed Asset Register was compiled – list details of the register (assets,	
	components, items), state its completeness and accuracy as well as gaps	
•	The status of the road classification in terms of RCAM	

- The sub-systems implemented by the Road Authority (central road network register, GIS, PMS, URMS, BMS, inventory system for ancillary assets, TIS)
- For asset management at Level IV and above, the name of the decision support software used to do the optimization analysis

#### **3.10 AD HOC RAMS REPORTS**

Reports on various initiatives within the Department will be required, as determined by the most recent DORA requirements, as well as the Department in its planning initiatives. The PSP will be expected to work with the Department in preparing these documents, and in most cases will be accompanied by a suitable presentation to the Departmental management structures.

#### 3.11 INCEPTION REPORTS FOR PROJECTS EMANATING FROM RAMS

The RAMS will identify specific projects, based on various inputs and criterion from both the Department and the national Department of Transport, through the annual DORA. The PSP will be required to provide Technical Inception reports on these projects, including the viability, costing and initial scope of such projects, as well as recommended work packages. Other technical support may be required in the implementation of such projects, such as documentation development for the appointment of consultants and providing technical reviews of projects as and when required.

#### 3.12 PROGRESS MEETINGS AND REPORTS

The PSP will be required to submit monthly reports and attend monthly co-ordination meetings with the Project Manager. At these meetings, the PSP will be expected to provide feedback on progress on the work that was planned for the previous month, as well as report on the work planned for the immediate future. The PSP will perform the secretariat function at these monthly meetings, and will be expected to produce minutes and keep attendance registers accordingly. The expenditure to date, in terms of a cash flow statement will also be reported on.

### **3.13 STAFF REQUIREMENTS**

The PSP will be required to provide the following staff, relevant to the functioning of a RAMS Infrastructure unit of a provincial road authority. The requirements will however vary depending on the actual staff availability and skills of the Department during the project period. The potential staff members to be provided are listed, with a listing of their typical skills and experience requirements thereafter. Some of the activities could be combined for one person, but the extent of the work will govern the practicality thereof. More than one position may be allocated to one person, should he have the requisite qualifications and experience for different roles, and providing that the workload allocation is reasonable.

- Team Leader
- Road network manager
- Pavement asset manager
- GIS practitioner
- Bridge/structures asset manager
- TIS manager
- Road safety manager
- Business Analyst
- Other road infrastructure asset manager (road signs, small cross and side drainage, road reserve, guardrails, etc)
- RAMS computer system manager

#### The Team Leader shall have demonstrable skills and experience of the following:

- Establishment of a fully compliant RAMS in the Department according to the requirements of TMH22 of COTO and GIAMA
- Supporting the Asset Management requirements in all aspects
- Procurement and management of data collection contractors
- Marketing RAMS in the Department
- Overall responsibility of preparation of the inputs to the annual RAMP
- Monitoring of system and individual performance of other RAMs PSP staff
- Develop process and requirements for RAMS development, considering all components, decision support systems, experience of other similar roads authorities, user requirements, asset management level of road authority for various infrastructure assets, SITA requirement, etc

### The Road Network Manager shall have demonstrable skills and experience of the following:

- Maintenance of the road network integrity roads, links, nodes and GIS
- · Procurement and management of services providers regarding maintenance of the road network integrity.
- Ensuring network definitions are up to date
- Support with route numbering and road user information
- Support with road proclamations

# The pavement Asset Manager shall have demonstrable skills and experience of the following:

- Pavement condition data collection, including visual condition assessments, profile measurements, pavement
  deflection strength testing, texture measurements; also quality control, and especially quality acceptance
  procedures for pavement data collection (typically embodied in a Data Quality Management plan based on
  relevant TMH documents.
- Management of outsourced pavement condition data collection (preparation of tender documents, procurement and supervision of PSPs, confirmation of collected data as acceptable)
- Linear referencing, dynamic segmentation, spatial referencing
- Collecting pavement structure information
- Pavement data processing, for reporting of road conditions; asset valuation and for inputs to the road asset management plan (RAMP) preparation, as described in TMH22
- Pavement performance prediction, including road deterioration, road works effects, road user effects (especially the HDM models), and calibration of these models for local conditions and use.
- Strategic analysis of road conditions and investment needs through a Life Cycle Cost Benefit Analysis; ie including life cycle costing, treatment selections, generation of strategies, quantification of benefits, the objective of the optimization, heuristic optimization, efficiency frontier, impact and consequences analysis, display of strategic level outputs
- Pavement maintenance strategies and the advantages of preventive maintenance
- Analysing the consequences of policy and budget scenarios for pavement infrastructure Maintenance
- Use of pavement management decision support systems '
- Preparation of suitable policies for pavement infrastructure maintenance
- Tactical analysis, preparation of multi-year preventive maintenance and rehabilitation plans for selected budget and other constraints.
- Preparation of reports on pavement conditions and needs
- Arrangements and coordination of panel inspections
- Effective presentation of pavement asset information and reports to management and other stakeholders.
- Display of pavement information in a GIS
- Managing the pavement assets

# The GIS practitioner involved in road infrastructure asset management shall have demonstrable skills and experience of the following:

- GPS road centreline data collection; specifications and tolerances, quality control requirements; quality acceptance procedures as defined in relevant TMH documents
- Management of outsourced GPS data collection (preparation of tender documents, procurement and supervision of PSPs confirmation of collected data as acceptable)
- Linear referencing in the RAMS
- Import of GPS data to GIS and cleaning of data for topology requirements of the RAMS, especially to use the dynamic segmentation (linear referencing) functionally of the GIS efficiently to display RAMS data
- Integration of GIS and RAMS
- Preparation of thematic maps from RAMS data
- Supporting staff in preparing relevant thematic maps of annual reports, special studies

### The Bridge/structures asset management shall have demonstrable skills and experience of the following:

- Bridge and structures inventory compilation and condition inspections, also quality control and quality acceptance procedures for bridges and structures data collection (typically embodied in a Data Quality Management Plan and based upon the TMH19)
- Management of outsourced bridge and structures data collection (preparation tender documents, procurement and supervision of PSPs, confirmation of collected data as acceptable)
- Bridge and structures data validation and processing, for reporting of bridge and structures conditions, needs and priorities; and for inputs to the Road Asset Management plan
- Strategic analysis of bridge and structures conditions and investment needs through the STRUMAN software, impact and consequences analysis, display of strategic level outputs
- Preparation of policies for bridge and structures infrastructure maintenance.
- · Scheduling of maintenance and repair activities for selected budget and other constraints
- Effective presentation of bridge asset information and reports to management and other stakeholders
- Display of bridge information in a GIS
- Managing the bridge and structures assets

### The TIS manager shall have demonstrable skills and experience of the following:

- Manual traffic data collection planning and principles, also quality control and quality acceptance procedures for traffic data collection (typically embodied in a Data Quality
- Management Plan and taking due cognizance of the relevant TMH documents (TMH8)
- Automatic traffic data collection planning and principles, also quality control and quality acceptance procedures for PSPs (typically embodied in a Data Quality Management Plan and taking due cognizance of the relevant TMH documents)
- Management of outsourced data collection (preparation of tender documents, procurement and supervision of PSPs, confirmation of collected data as acceptable
- Validation of manual traffic data upon capturing in the TIS
- Validation and import of automatic counting data to the TIS
- Traffic data processing
- Analysis and understanding of traffic flow on the network, stratification of the network to use all available count station data to extrapolate such to ADT of links across the full network
- Investigating traffic growth patterns on the network
- Determining and managing congestion monitoring and priorities
- Display of traffic information in the GIS
- · Providing in the traffic data needs of the RAMS and especially the RAMP
- Presentation of traffic data annual reports, GIS maps

### The road safety manager shall have demonstrable skills and experience of the following:

- Obtaining road accident data collection from relevant authorities e.g. SAPS
- Validation of accident data regarding locations on the road network of the Department, before importing to a suitable analysis tool
- Analysis and reporting of accident statistics, accident rates, trends, etc.
- Display of accident information in the GIS
- Providing in the accident data needs of the RAMS and especially the RAMP
- Execution of road safety audits
- Management of outsourced road safety and black spot investigations data collection
- (preparation of tender documents, procurement and supervision of PSPs, confirmation of collected data as acceptable
- Preparation and management of a black spot elimination programme
- Preparation of policies for road safety management including black spot elimination
- Effective presentation of accident information and reports to management and other Stakeholders

## The maintenance manager shall have demonstrable skills and experience of the following:

- Road inventory data collection and updating (road signs, road reserve assets, minor
- Drainage assets), including road inventory inspections, also quality control and quality acceptance procedures for PSPs (typically embodied in a Data Quality management plan and taking due cognizance of the relevant TMH documents
- Management of outsourced data collection (preparation of tender documents,
- Procurement and supervision of PSPs, confirmation of collected data as acceptable)
- Validation of road inventory data upon capturing in suitable software of the RAMS MC
- Processing, for reporting of road inventory conditions, needs and priorities, and for inputs to the Road Asset Management Plan
- Strategic analysis of road inventory conditions and investment needs according to agreed asset management decision level, impact and consequence analysis, display of strategic level outputs
- Preparation of policies for road inventory maintenance
- · Scheduling of maintenance and repair activities for selected budget and other constraints
- Effective presentation of road inventory asset information and reports to management and other stakeholders
- Display of road inventory information in a GIS
- Managing maintenance effectiveness and efficiency
- Coordinating routine maintenance cost monitoring

#### The RAMS computer system manager shall have demonstrable skills and experience of the following:

- Develop process and requirement for RAMS development, considering all components, decision support systems, experience of other similar roads authorities, user requirements
- Asset management level of road authority for various infrastructures assets, SITA requirements, etc
- Competent relational databases for the RAMS
- Data management systems
- GIS integration requirements
- Decision support levels of RAMS
- Web and intranet requirements
- Data and information distribution to all levels of the Department, and all spatially distributed offices
- Management of outsourced RAMS development (preparations of tender documents, procurement and supervision of services providers, user acceptance testing, user training, support agreement (Service Level Agreements)
- Management of the RAMS (ensuring acceptable availability, including back-up of data)
- Planning for future upgrading, refinement and development of the RAMS

#### The Professional Scientist shall have demonstrable skills and experience of the following:

- Experience in the borrow-pit registration process, preferably in the Eastern Cape.
- Experience in the identification of suitable borrow-pit sites and all aspects of the environmental scanning process in the registration of borrow-pits.
- Experience in a RAMS (or related system) as a tool for the management of borrow-pits

# The business analyst will have the demonstrable skills and experience of the following:

- Knowledge of Provincial budgeting processes
- · Ability to research previous years expenditure based on available annual statements and / or financial systems
- Analysis and categorisation of budgets for past and future financial years
- Preparation of accurate financial information, as required in the RAMP, as well as any ad hoc reporting requirements

### 3.14 GRADUATES PROVIDED WITH EXPERIENTIAL INTERNSHIPS AND/OR TRAINING BY THE PSP

It is a requirement of this tender that the PSP shall provide opportunities to graduates for experiential internships, and/or opportunities for Departmental staff to receive experiential training (skills transfer) and assistance to register with ECSA in any category, as directed by the Department. Tenderers shall provide details of their planned approach to make such opportunities available.