



# **South African Pavement Design Method (SAPDM)**

## **Revision Status Report**

**25<sup>th</sup> RPF Meeting**

**8 May 2013**

**L Kannemeyer**

# Aka GODZILLA



# SAPDM Revision - Historical Overview

- Process initiated at RPF - **May 2005**
- R&R framework - **November 2005**
- Pavement Performance Information System (LTPP)
  - Material Classification Concept
  - Pavement Number Concept (PN)
  - 50 Projects Completed – **February 2008**
  - 11 Stabilized Projects Added – **February 2008**
- Mechanistic-Empirical Analysis System (MEAS)
  - Phase 1 – Develop Detailed Project Briefs – **November 2006**
  - Phase 2 - Inception Phase (22 Projects) – **July 2007**
  - Peer Review – Phase 2 Reports – **November 2007**
  - Additional SANRAL Requirements – **December 2007**
  - Appointment of Main Service Providers – **September 2008 (5 year)**
    - CSIR Built Environment
    - Pavement Modelling Corporation
    - SC Van As Traffic Engineering
- SAPDM Website ([www.sapdm.co.za](http://www.sapdm.co.za)) – **May 2009**

# SAPDM Revision - Progress To Date

## Reports

- Nov 2009 = 8 Reports
- May 2010 = 21 Reports
- Nov 2010 = 30 Reports
- May 2011 = 43 Reports
- Nov 2011 = 56 Reports
- Nov 2012 = 77 Reports
- **May 2013 = 88 Reports**

## Field Trials – Ongoing

- Environmental Nov 2012 = 41 Sites / 39 Sites sampled, **lab material tests in progress**
- Experimental Sections
  - R35 Stabilisation (CTB,FTB,ETB/G1) & IC – Oct 2012
  - **R104 Instrumented Typical Pavements – In Progress**

Surface Seals – **In progress, work Started April 2011**

Concrete / Block Integration – **In progress**

# R104 Instrumented Sections - Flexible



**WESTBOUND** →

TAPER 30700 km	30810		30910		31010		31110		31210		31310		31410		31510	
	1	2	3		4		5		6		a		b			
Section No.																
Length (m)	50	50	100		100		100		100		100		100			
Finished Road Level	19/19 Double Seal (S-E1)															
100 mm	150 G4 Donkerhoek	150 G1 Ferro Crushers	200 FTB TBC (Donkerhoek/Quicksand)		200 ETB TBC (Donkerhoek/Quicksand)		200 CTB TBC (Donkerhoek/Quicksand)		40 AC 150 BTB		40 AC 150 HIMA		40 AC 100 HIMA			
200 mm	200 G5 TBC (Donkerhoek/Quicksand)	200 C3 TBC (Donkerhoek/Quicksand)	150 G7 (Ex-pavement Layers)		150 G7 (Ex-pavement Layers)		150 G7 (Ex-pavement Layers)		150 C3 TBC (Donkerhoek/Quicksand)		150 C3 TBC (Donkerhoek/Quicksand)		150 C3 TBC (Donkerhoek/Quicksand)			
300 mm																
400 mm	150 G7 (Ex-pavement Layers)	150 G7 (Ex-pavement Layers)	150 G7 (Ex-pavement Layers)		150 G7 (Ex-pavement Layers)		150 G7 (Ex-pavement Layers)		160 G7 (Ex-pavement Layers)		160 G7 (Ex-pavement Layers)		210 G7 (Ex-pavement Layers)			
500 mm	150 mm Road Bed Preparation															
Bottom of Box Cut																
600 mm																

# R104 Instrumented Sections - Rigid



		38065	38070	38075	38080	38085	38090	38095	38100	38105	38110	38115	38120	TAPER 30000		
		8				9				10						
a	b	a	b	c	d	a	b	c	d	e	f	g				
45.0	45.0	50	50	50	50	30	15	15	15	15	15	15				
150 JCP	150 JCP	70 UTCRCP	70 UTCRCP	70 UTCRCP	70 UTCRCP	55+ 25 CBP	55+ 25 CBP	55+ 25 CBP	55+ 25 CBP	55+ 25 CBP	55+ 45 CBP	55+ 45 CBP				
150 C3 TBC (Donkerhoek/Q uikaand)	150 G5 TBC (Donkerhoek/Q uikaand)	150 C3 TBC (Donkerhoek/Q uikaand)	150 C3 TBC (Donkerhoek/Q uikaand)	150 C3 TBC (Donkerhoek/Q uikaand)	150 C3 TBC (Donkerhoek/Q uikaand)	150 C3 TBC (Donkerhoek/Quikaand)					150 C3 TBC (Donkerhoek/Q uikaand)					
200 G7 (Ex-pavement Layers)		280 G7 (Ex-pavement Layers)	280 G7 (Ex-pavement Layers)	280 G7 (Ex-pavement Layers)	280 G7 (Ex-pavement Layers)	270 G7 (Ex-pavement Layers)					250 G7 (Ex-pavement Layers)					



# R104 Instrumented Sections



# SAPDM Detail Feedback

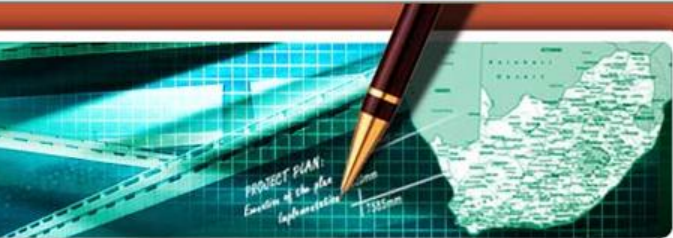
<b>Title</b>	<b>Presenter</b>
Research Outcomes and their implementation in SAPDM	<b>H Theyse</b>
SAPDM Software Portal and Interface	<b>L Kannemeyer</b>





# SOUTH AFRICAN Pavement Design Method

IMPROVING THE STRUCTURAL DESIGN MODEL



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### About the project

Mechanistic-empirical pavement design has been one of the primary pavement design tools in South Africa since the early 1970s. Although some improvements were made to the original method over the years, the main components of the current method are still based on research done during the 1970s and 1980s. The problems associated with the current method were highlighted at the Conference for Asphalt Pavements in Southern Africa held in 2004. These problems were again raised at the subsequent Roads Pavement Forum meeting held in May 2005 and a workgroup appointed to initiate the revision of the South African Mechanistic-Empirical Design Method.

### Project sponsors

Currently two sponsors have approved funding for the revision of the flexible pavement design method, the South African National Roads Agency Ltd (SANRAL) and the CSIR. CSIR funding covers mostly research activities to establish the foundation from which the development and implementation activities will be launched. SANRAL is the main sponsor and largest client body to implement the revised design method.

### PROJECT SPONSORS:



South African National Roads Agency Ltd. (SANRAL)      Council for Scientific and Industrial Research

### CONTACT INFORMATION:

For any queries regarding the project please contact the project team at [info@sapdm.co.za](mailto:info@sapdm.co.za)

### NEWS

Sorry, no new news posted  
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### CALENDAR

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September - 2011						
Mo	Tu	We	Th	Fr	Sa	Su
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

# www.sapdm.co.za