

PUBLIC-PRIVATE INFRASTRUCTURE FORUM

THE ROLE OF THE MUNICIPAL ENGINEER AND IMESA

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Vice President : IMESA (Operations)



OUTLINE OF TALK :

- 1) TYPICAL LARGE CITY
 - 2) FIRST WORLD PROJECTS
 - 3) RURAL AREAS
 - 4) INFORMAL AREAS
 - 5) IMESA'S ROLE
- 

1) A TYPICAL LARGE CITY



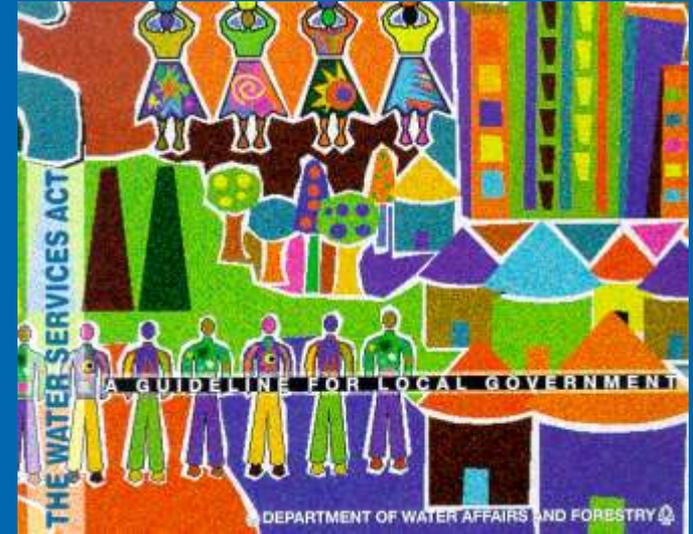
S.A. Water Services Act of 1997

eThekweni Water Services is both

- The Water Services Authority and
- The Water Service Provider

It is our responsibility to

- Reach the poor and un-reached in an affordable and sustainable manner
- Run the water and wastewater undertaking in a businesslike manner
- Conserve water and the environment





2) FIRST WORLD PROJECTS



IMESA

Shark Protection



Ocean Beach & Bathing Enclosure, Durban. No. 56.

Camperdown Dam







Gantry 1

Abutment Frame

Middleshield

Frontshield

Cutter Head

Tailskin

Bridge



PROBLEMS CHALLENGES





Water Balance

Systems Input 822 395k☼/day	Authorised Consumption 633 649 k☼/day	Billed Authorised Consumption 568 135 k☼/day	Billed Metered Consumption 522 135k☼/day	Revenue Water 568 135 k☼/day
			Billed Un-metered Consumption 0k☼/day	
		Unbilled Authorised Consumption 65 514 k☼/day	Unbilled Metered Consumption 6 114k☼/day	
			Unbilled Unmetered Consumption 59 400k☼/day	
	Water Losses 192 222 k☼/day	Apparent Losses 37 749 k☼/day	Illegal Connections 18 424k☼/day	Non-Revenue Water 257 736 k☼/day
			Metering Inaccuracies 19 325 k☼/day	
		Real Losses 154 473 k☼/day	Mains Leaks 47 250 k☼/day	
			Reservoir Overflows / leaks 1 500 k☼/day	
			Service Connection leaks 105 723 k☼/day	



Real Loss Interventions

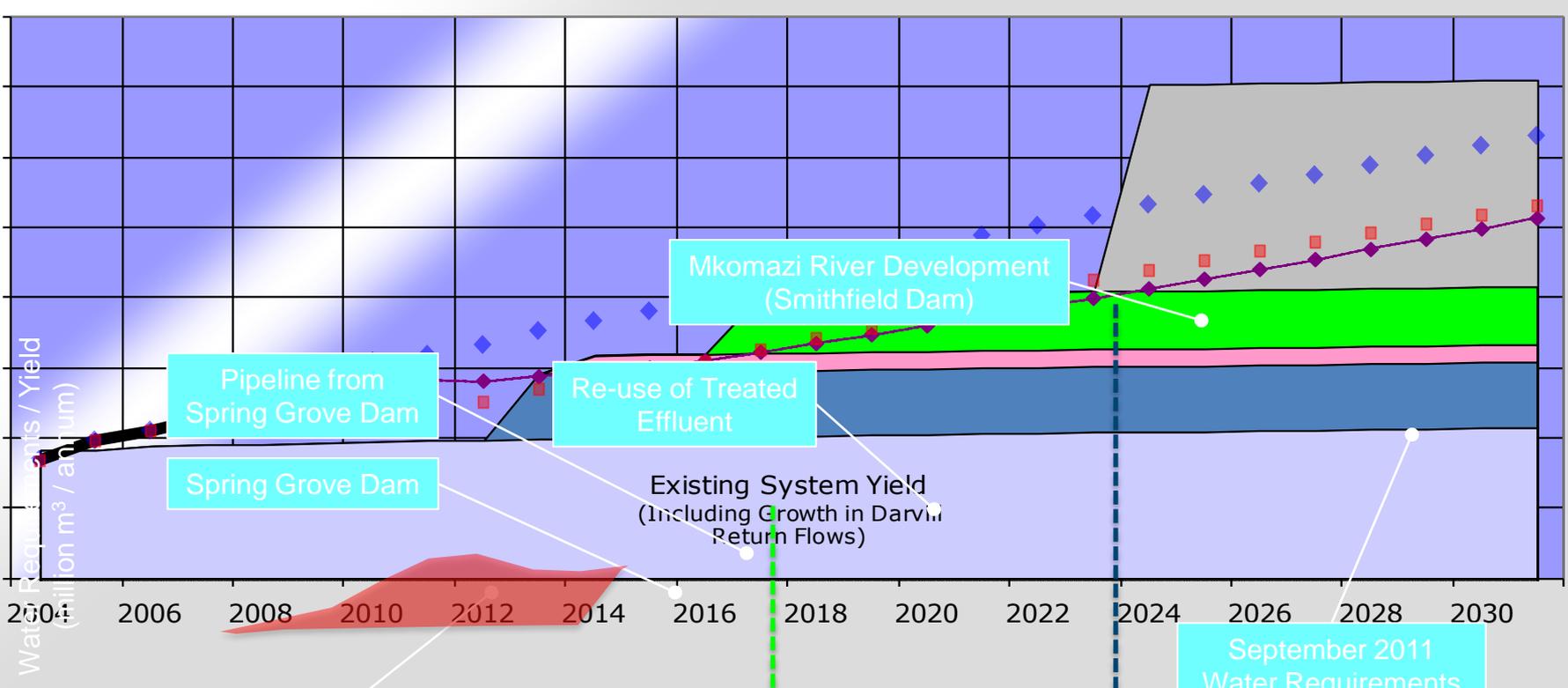
- Replacement of all 100mm and 150mm diameter AC mains (R550 million over 5 years).
- 16 020 km water main checked – 28 193 leaks identified and repaired.
- Lowering of pressure in CBD – savings eventually R5million p.a.).
- Lowering of pressure generally – eg Umlazi 48m to 40m
- Active maintenance of valves.
- Warning devices.
- Plumbing repairs in R293 areas (if arrears >60 days and consuming >1,5k³/day).



Advanced Pressure Management in the Durban CBD



Water Balance – Mgeni System (September 2011)



Deficit

Earliest Re-use Implementation

Earliest Mkomazi Implementation

September 2011 Water Requirements Scenario



External View of Plant



WESTERN AQUADUCT



A Municipality Of Contrasts



3) RURAL AREAS

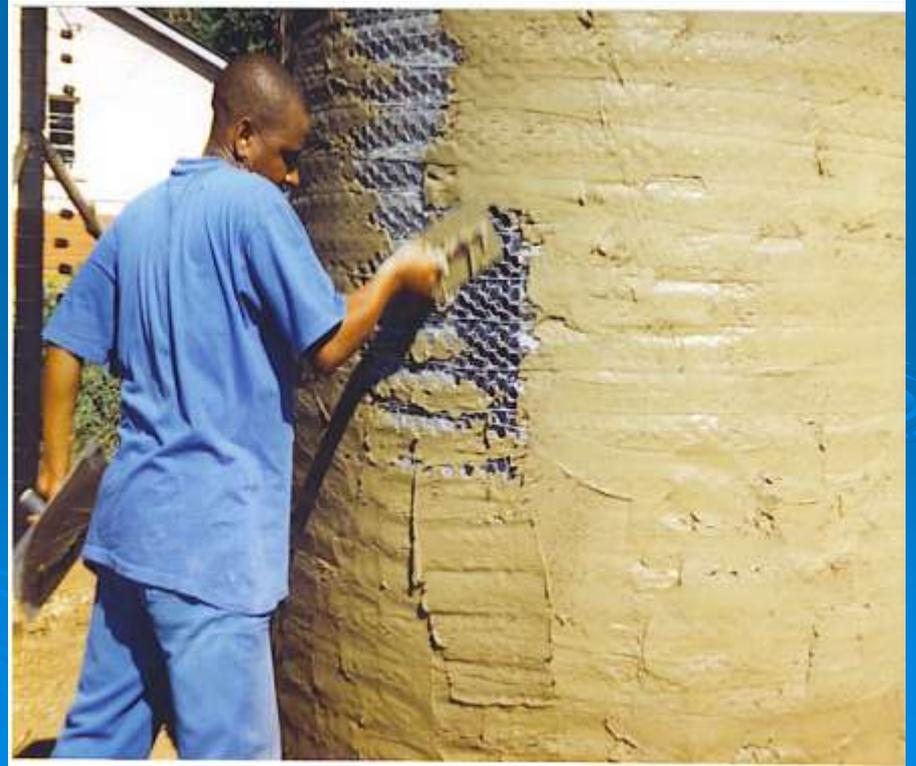
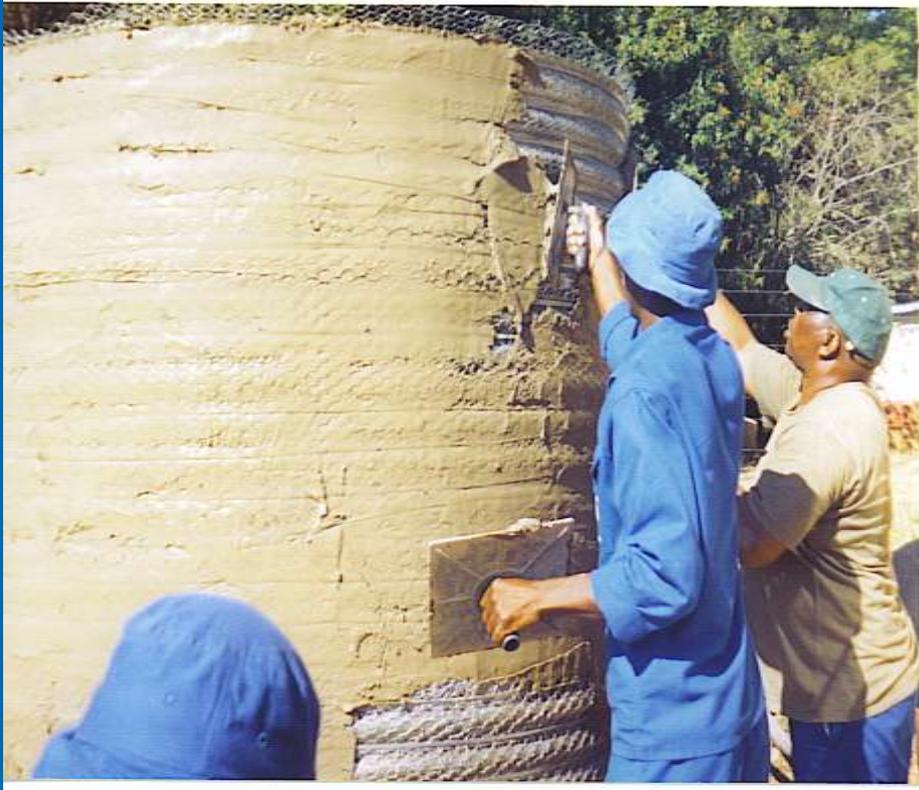








Plastering



Rainwater Harvesting



Difficult access to properties



ESA



The Hopper



ESA

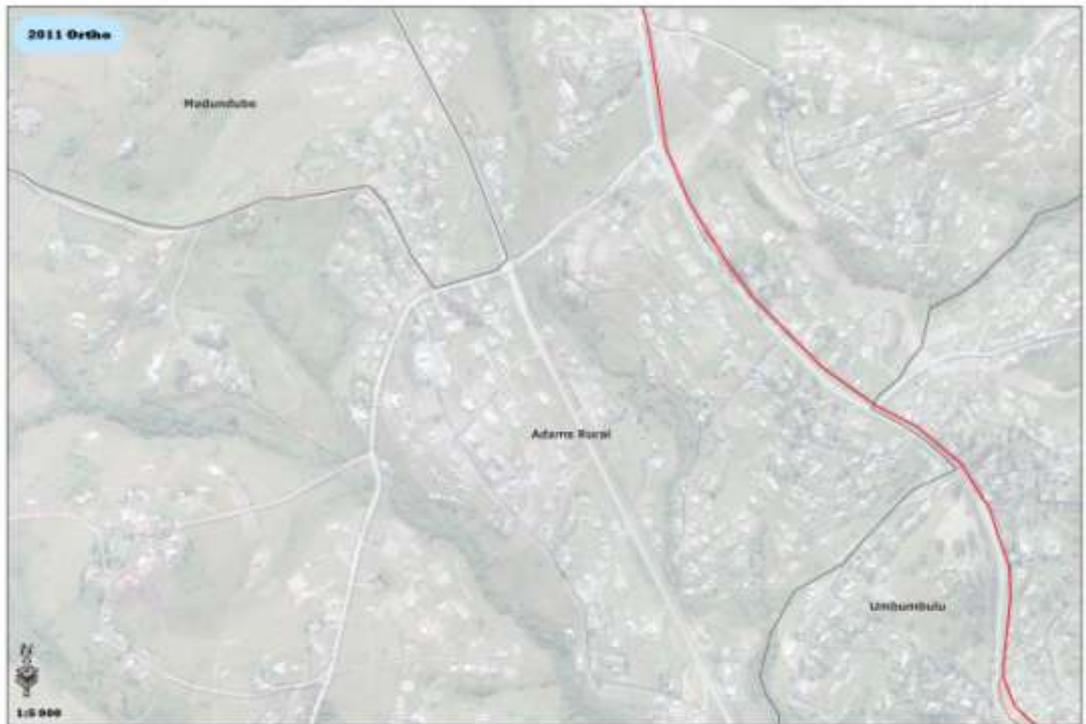
Achievements of Pilot Project



- 1318 pit latrines emptied
- R432 000 to community in wages
- 190 local persons employed
- 6014 person-days
- Clear guidelines for full-scale project
- Increased community awareness



DENSIFICATION



4) INFORMAL AREAS





2011

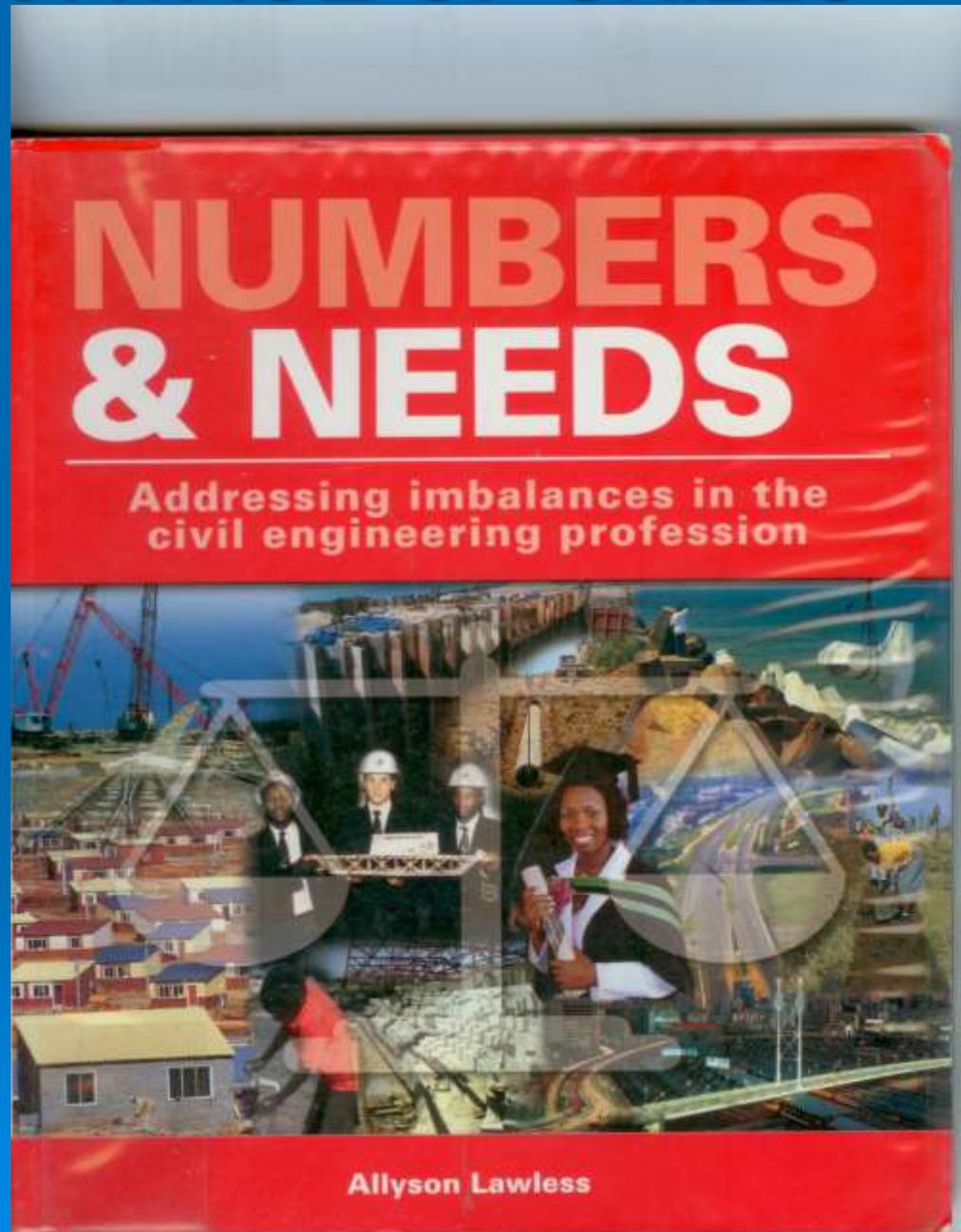




IMESA



SHORTAGE OF SKILLS



4) IMESA'S ROLE



IMESA IN A NUTSHELL

- Institution of Municipal Engineering of Southern Africa.
- Membership of 1 100 (Engineers, Technologists, Technicians, Consultants and Contractors).
- 9 Branches : Border , N Cape , N Province , S Cape , W Cape , E Cape , Free State , KZN , Rest of SA
- President : Jannie Piertersen , 2 Vice Presidents
EXCO , Council , Directors



RECENT TWO DAY STRATEGIC MEETING

MUST REMAIN RELEVANT

EXPRESS YOUR OPINION

DIRECTORSHIPS:

Water, Sanitation and
Environment

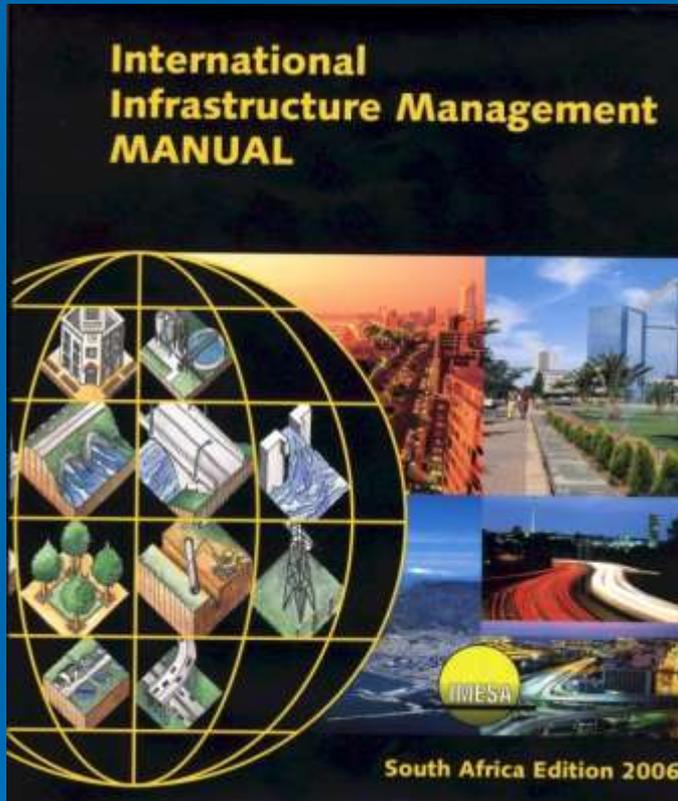
Roads, Transport and
Stormwater

Building, Structures and
Planning

Computer Applications



TYPICAL PROJECTS



- International Infrastructure Management Manual.

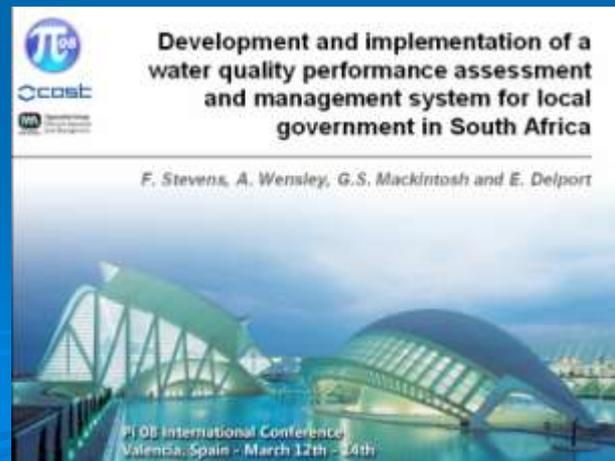
IMESA Infrastructure Management System



IMESA/DWAF DRINKING WATER INITIATIVE



- 3000 Sample Sites , 5000 Data Sets
- Open Source Software Management Tool
- 160 (out of 170) LA's participated and benefited



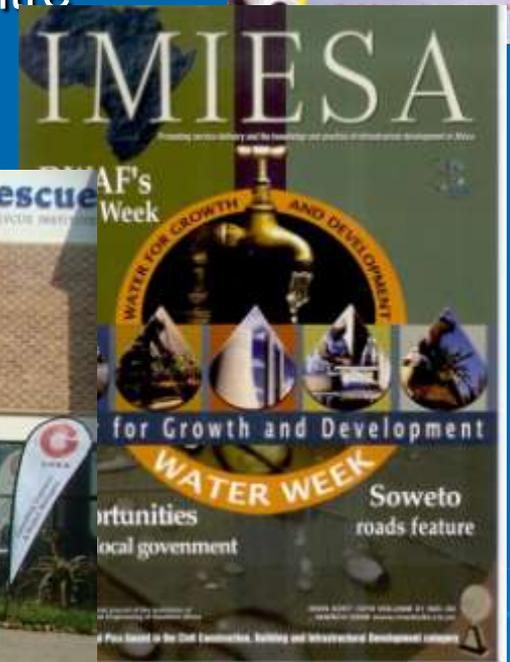
Guidance, Coaching and Mentorship



- IMESA Conference 2011 OR Tambo Conference Centre
- “Yesterday , Today and Tomorrow”
- 2012 Conference George

- IMESA Journal
- Branch Meetings

- Guidelines :
 - Low Cost Roads
 - Traffic Calming
 - Package Plants
 - Non –Revenue W





76th IMESA Conference
SOUTHERN CAPE KAROO

24 to 26 October 2012

GEORGE, WESTERN CAPE

Engineering for Change

Reserve this date now on your calendar for next year!



In the heart of the Garden Route, George offers a unique conference experience and exciting technical programme.

Details regarding the programme, registration forms, technical programme, accommodation reservations, golf, a list of exhibitions and the companions programme will follow in due course.

STRATEGIC PARTNERSHIP

between

South African Local Government Association

and

Institute of Municipal Engineering of Southern Africa

on

NETWORKING AND CAPACITY BUILDING

BACKGROUND

The demands of Sustainable Development can only be met if the principles of Sustainable Engineering are adhered to. This concept prescribes striving for appropriate, affordable and sustainable engineering services and infrastructure within local government. This concept in turn necessitates the development and maintenance of technological skills and expertise supported and facilitated by the key stakeholders including government, private enterprise, academic and professional structures.

SALGA and IMESA regularly strive to provide an appropriate and efficient level of human resource capacity in the local authority environment and contributes resources and expertise in partnership with key stakeholders to accomplish the transfer of the best practice principles of sustainable development to communities at all levels. It is committed to achieving its objectives through sharing of skills and knowledge in an unbiased, non-competitive way.



BACKGROUND

- Sustainable Engineering will lead to Sustainable Development
- Appropriate , Affordable and Sustainable Services and Infrastructure
- Sharing of Skills and Knowledge
- Support by Government , Private Enterprise , Academic and Professional Structures
- Professionalism , Ethical Conduct & Networking



STRATEGIC PURPOSE OF THE PARTNERSHIP

- Exchange of common challenges
- Sharing of engineering solutions
- Joint seminars with Municipalities
- Grow and sustain a competent professional engineering workforce



AREAS OF COLLABORATION

- Exchange networking information
- Exchange data bases
- Establish task teams of common interest



PARTNERSHIPS AND RECIPROCAL AFFILIATE MEMBERSHIP

WATER INSTITUTE OF SOUTH AFRICA (WISA)

CORROSION INST OF SOUTH AFRICA

CONSULTING ENGINEERS SOUTH AFRICA

SAICE

The background of the slide is a solid blue color. In the lower half, there are several faint, concentric circular ripples that resemble water droplets hitting a surface, creating a subtle pattern.

Training



**INSTITUTE OF MUNICIPAL ENGINEERING
OF SOUTHERN AFRICA (IMESA)**

P O Box 2190, Westville, 2630

Block A, The Summit, 2 Derby Downs Place, Westville,
2629



Project Management Intermediate (3 days)

13 – 15 June 2012

This course will provide learners with the key tools and techniques required to initiate a project, to establish and plan the project and to manage it to successful completion. This course is designed to function as a standalone offering, or to assist learners studying towards achieving the Project Management Institute's Project Management Professional (PMP®) certification.

Intended Audience

- Project or Program Managers working on moderately complex to complex projects.
- Project or Program Managers who wish to refresh their project management knowledge.

Pre-Requisite Learning

Two to three years of Project Management experience in a leadership role.

CPD POINTS: 3

COST : R8205 (excl VAT)

Enquiries/Registration: Judy Stephens
Tel: (031) 266 3263 **Fax:** (031) 266 5094
E-mail: training@imesa.org.za

Course Topics

- Project Management Principles
- The PMBOK® Structure
- Project Selection and Prioritisation
- Projects and the Organisation
- Project Roles
- The Project Charter
- Project Definition and the Scope Statement
- The Project Schedule
- The Project Budget
- Reporting and Communication
- Exception Management
- Project Closure
- Professional Responsibility

Student Materials

Materials include Learner Manual, Case Study materials including sample answers, and templates for project management.

Each learner will receive a copy of Rory Burke's Project Management Techniques: College Edition

Venue: IMESA
2 Derby Downs Place, Westville

Parking: Roof Parking at Westwood Mall
(Map available on registration)
• Shuttle to venue

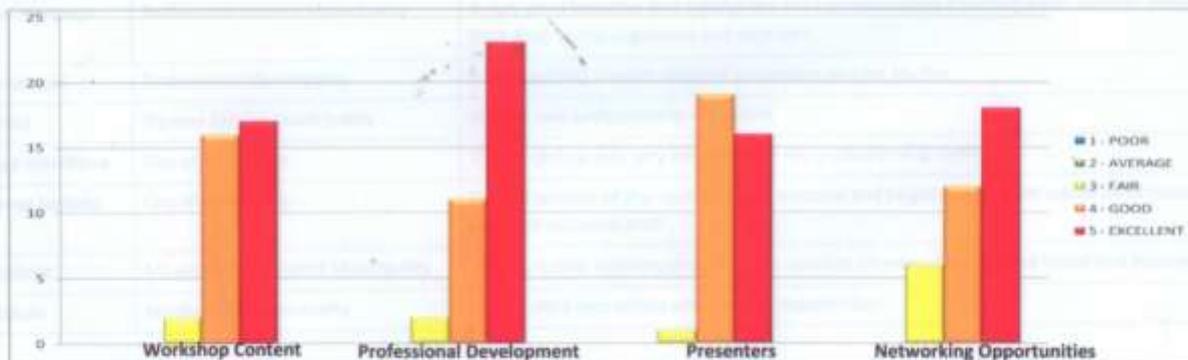




WATER SERVICES MASTER CLASS EVALUATION

Durban Botanical Gardens 14 – 15 February 2012

ITEM	RATING					TOTAL
	1 - POOR	2 - AVERAGE	3 - FAIR	4 - GOOD	5 - EXCELLENT	
How would you rate the workshop content?			2	16	17	35
Was this workshop relevant to your professional development?			2	11	23	36
How would you rate the presenters?			1	19	16	36
How would you rate the networking opportunities?			6	12	18	36



Brought to you by SALGA / WRC's Municipal Benchmarking Initiative:
For Municipalities, By Municipalities, to the Benefit of Municipalities



Guide to Implementing Non-Revenue Water Reduction Programs

What is Non-Revenue Water and Why Must You Reduce It?

Non-Revenue Water is simply the difference between the volume of water supplied into a supply system(s), either bought from a bulk water supplier or produced from own sources, and what is sold to customers.

It includes all unmetered consumption, consumption through connections not included in a billing database, physical water leaks and overflows, illegal consumption and metering inaccuracies.

In terms of the National Water Act, the supply of potable water to all people is protected, but the responsibility is to ensure that the distribution of water takes place in a responsible and accountable manner. As Non-Revenue Water is a measure of both the operational and financial efficiency of any water supply system operator, and is also a critical part of protecting scarce water resources in a water-scarce country, each water supply system operator needs to ensure that these volumes are kept to a sustainable and economically minimal level.

A National target has been set to reduce the levels of Non-Revenue Water by 50% by 2014.

How Non-Revenue Water is Calculated - What is a Water Balance?

A water balance is a complete accounting of all water entering into a distribution system and can be completed on a monthly, quarterly or annual basis. It follows a modified form from the standard adopted by the International Water Association.

System Input Volume m ³ /year	Authorised Consumption m ³ /year	Billed Authorised Consumption m ³ /year	Billed Metered Consumption	Free Basic Water
		Unbilled Authorised Consumption m ³ /year	Billed Unmetered Consumption	Recovered Revenue
	Apparent Losses m ³ /year		Unbilled Metered Consumption	Non-Recovered Revenue
		Unbilled Unmetered Consumption		
	Water Losses m ³ /year	Real Losses m ³ /year	Illegal Connections	Non-Revenue Water m ³ /year
			Metering Inaccuracies	
		Mains leaks		
		Service connection leaks		
	Reservoir overflows			

IMESA WEBSITE

IMESA - Windows Internet Explorer provided by Yahoo!

http://www.imesa.org.za/?page_id=68

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IMESA



Infrastructure Engineering - Innovation - Knowledge Sharing



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2012 IMESA Conference

The 2012 IMESA Conference will be held in George from 24th to 26th October 2012. The theme this year is "Municipal Engineering in a Changing Environment".

Less than 140 days to the 2012 IMESA Conference – book now! [Click Here](#) for on-line registration and full details including delegate and companion programs.



24 to 26 October 2012
GEORGE, WESTERN CAPE
Engineering for Change

2012 IMESA / CESA Excellence Awards

Call for Entries: Closing date: 31 July 2012

The Institute of Municipal Engineering of Southern Africa (IMESA) and Consulting Engineers South Africa (CESA) have pleasure in inviting local, provincial and government / semi-government authorities and / or their engineering consultants to submit entries for the 2012

Pre Conference Workshop



2012 Conference

Internet 100%

http://conference.imesa.org.za/

IMESA

THANK YOU



➤ Email : imesa@webstorm.co.za

