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Sustaining the low water losses at Drakenstein Municipality

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Participating and supporting organisations :



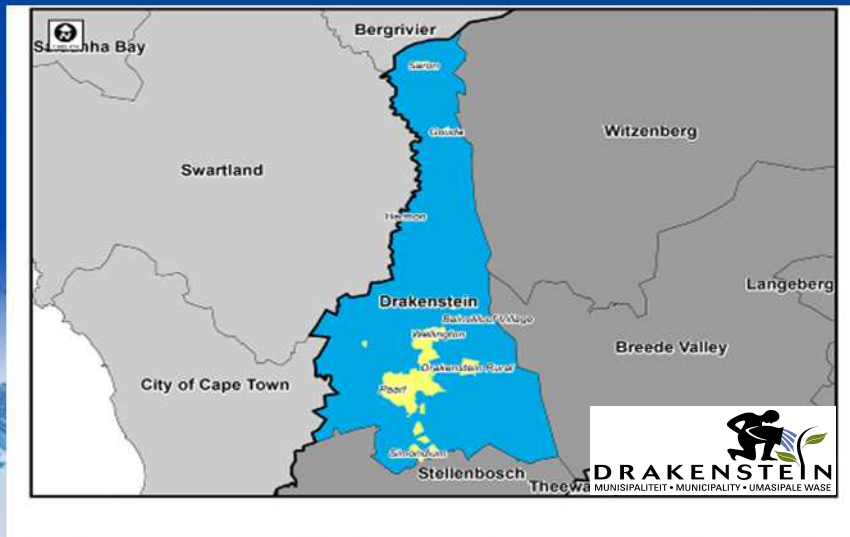
Drakenstein Municipality within Cape Winelands Area



Map showing the location of Drakenstein Municipality within the Cape Winelands Area. The map includes labels for Northern Cape, West Coast, Central Karoo, Eden, Overberg, Cape Winelands, and Drakenstein. Other municipalities shown include Pixley ka Seme, Chris Hanu, Eastem Cape, and Cacadu. The City of Cape Town is also indicated.

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Drakenstein Municipal Area



WDM/WCM Interventions

- ♦ **The following Water Demand Management and Conservation interventions were established.**
 - **Hydraulic Modeling** of water reticulation network for all towns.
 - Introduction of a **five step rising block tariff** scheme.
 - **Pressure Management** initiative was implemented.
 - **Metering of all unmetered water connections** and metering of all fire fighting water connections.
 - **Increased public awareness** and promotion of water saving devices.
 - **Refurbishment/replacement of existing water network** (10.3km/2014/2015).

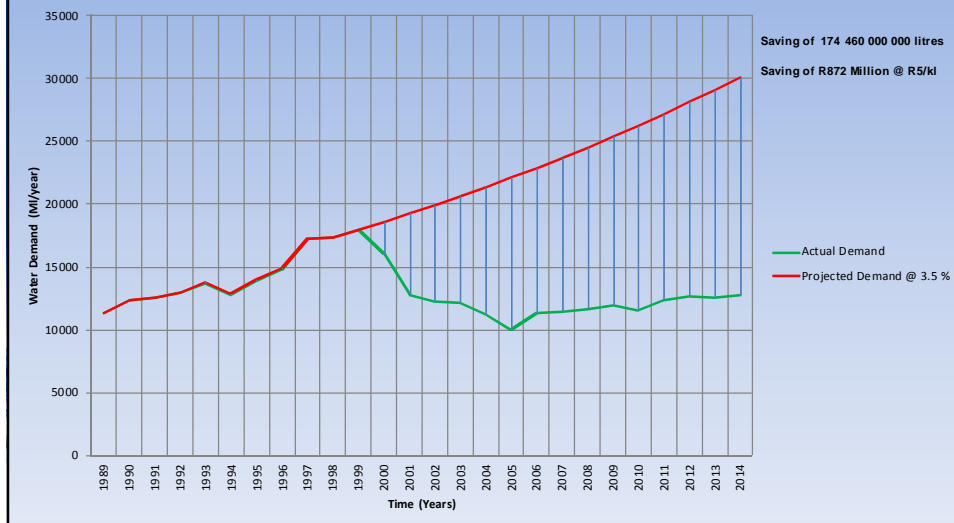
Results and Successes

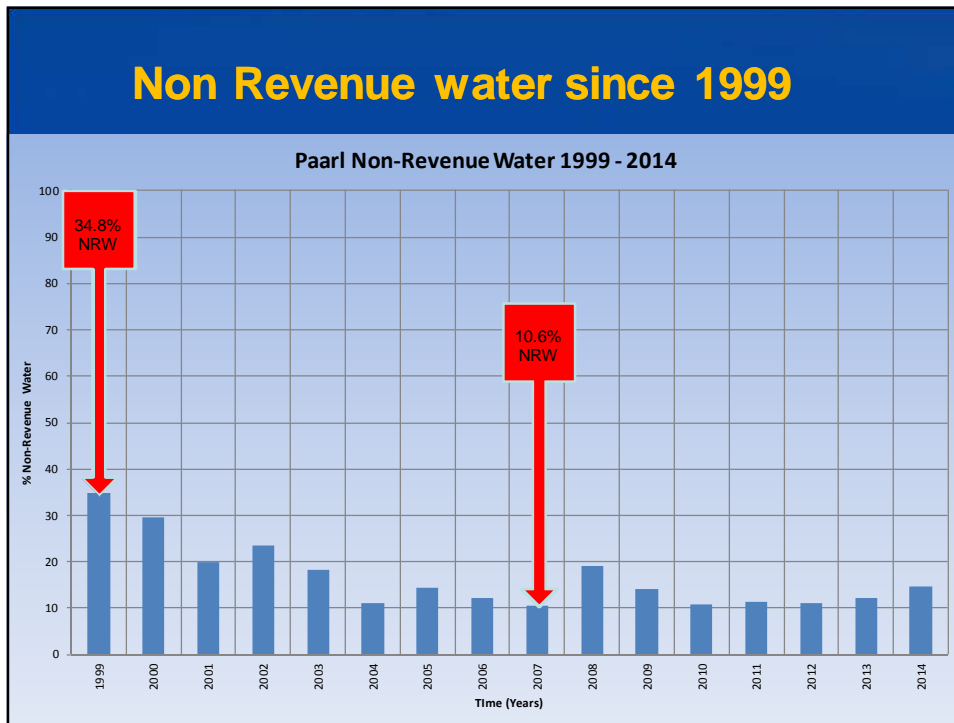
Paarl Water Demand 1959 - 2014



Theoretical Savings

Paarl Water Demand 1989 to 2014





Non-Revenue Water Statistics

Table G 5.2: Non-revenue water for the various distribution systems

Description	Unit	13/14	Record : Prior (M/a)				
			12/13	11/12	10/11	09/10	08/09
Paarl and Wellington	Volume	2 395,480	2 031,439	1 839,764	1 818,452	1 624,675	2 129,013
	Percentage	14,00%	12,08%	11,05%	10,81%	10,20%	13,75%
	ILI	1,36	1,17	Paarl: 1,38 Well: 1,28	Paarl: 1,34 Well: 1,28	Paarl: 1,24 Well: 1,17	1,36
Saron	Volume	183,080	60,456	63,060	148,941	163,005	136,935
	Percentage	32,23%	10,87%	10,72%	25,06%	28,50%	22,94%
	ILI	1,62	1,67	1,68	1,67	1,66	1,66
Gouda	Volume	60,212	34,809	30,885	26,965	22,791	17,222
	Percentage	32,07%	19,98%	19,95%	16,86%	15,65%	11,64%
	ILI	1,59	2,62	2,50	2,01	1,64	1,64
Hermon	Volume	-17,173	1,958	16,885	18,365	13,562	19,953
	Percentage	-48,64%	5,24%	35,20%	43,80%	39,97%	59,10%
	ILI	-	0,35	3,72	3,78	3,38	3,38
Bainskool	Volume	1,646	0,671	1,649	0,579	0,452	-
	Percentage	37,36%	17,41%	40,65%	12,30%	11,53%	-
	ILI	-	-	-	-	-	-
TOTAL	Volume	2 623,245	2 129,333	1 952,243	2 013,302	1 824,485	2 303,123
	Percentage	14,65%	12,11%	11,19%	11,43%	10,94%	14,15%
	ILI	2,34	2,11	1,98	2,02	1,21	1,21

Facts-

- 🔥 **Drakenstein Municipality – upgrading of services before 2000.**
- 🔥 **Shift to conserve and save water in 1999.**
- 🔥 **Water losses of 33.8% @ 1999**
- 🔥 **Water losses of 14.1% @ January 2015**

Measures required

To sustain the Water Demand Management efforts obtained by Drakenstein Municipality the following strategy were followed, namely:

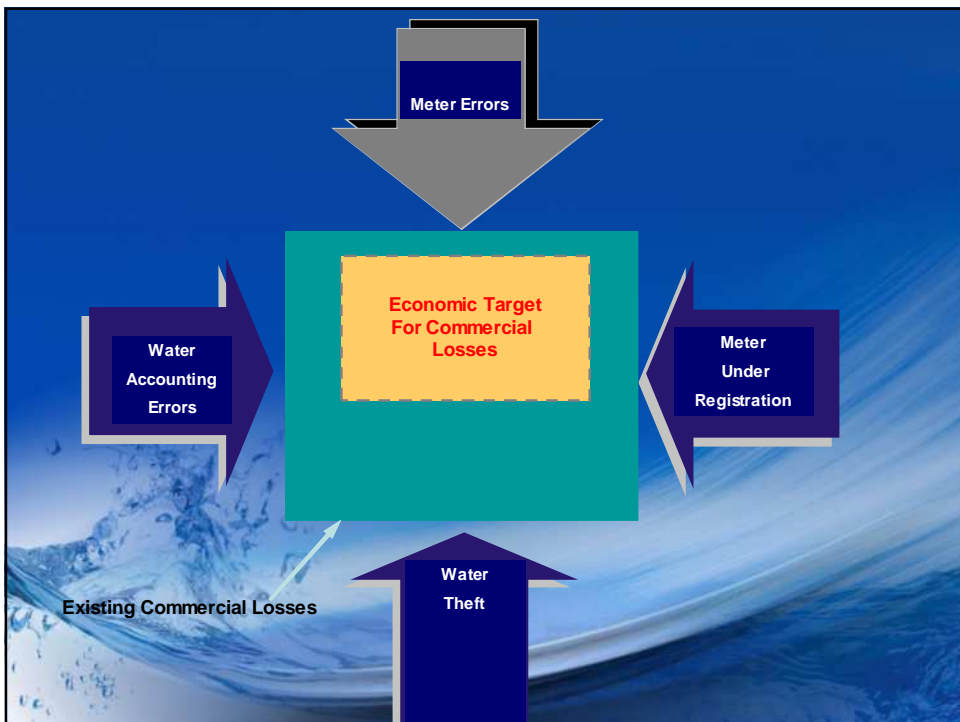
- 🔥 **Proper record keeping of data and information regarding the infrastructure (including flow measurements)**
- 🔥 **Historical information of the whole reticulation systems.**
- 🔥 **Training for personal and using the correct equipment for all day to day operations**

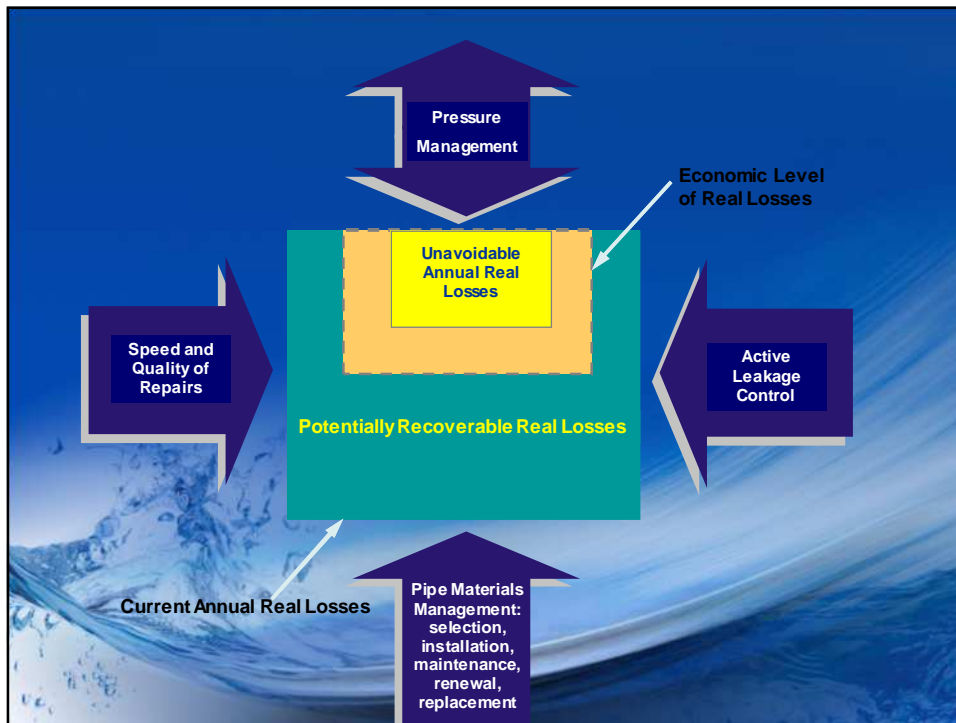
Measures required

- 🔥 Refurbish reticulation system using quality materials
- 🔥 Preventative maintenance program (maintaining of valves, pumps and equipment before it become problem)
- 🔥 Reduce pipe repair reaction time (attend to water burst pipe incidents, i.e. 1 hour of less)



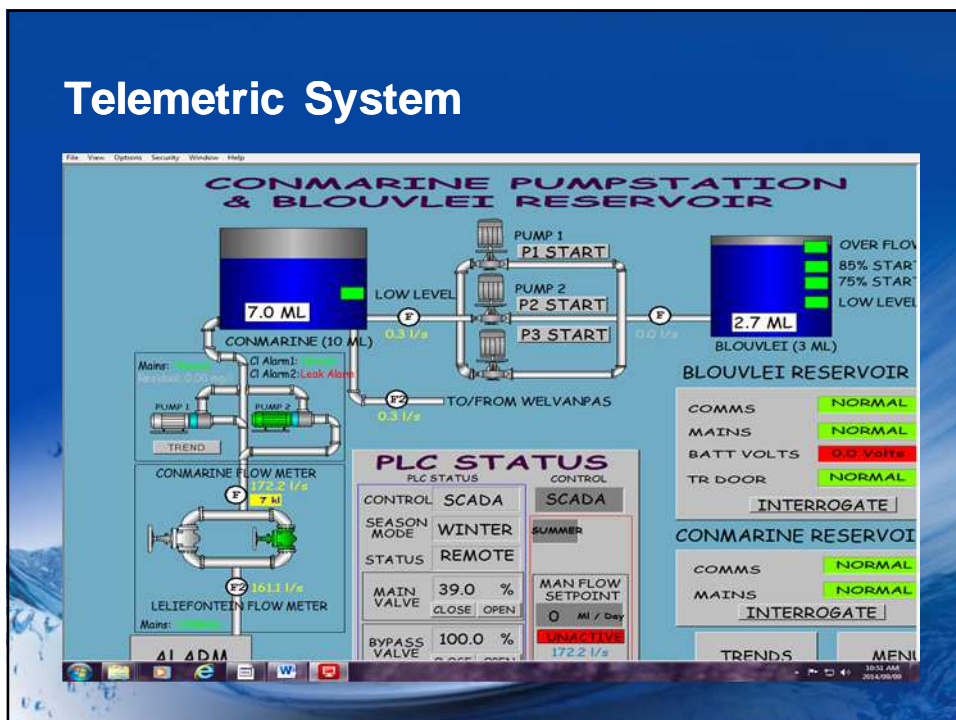
Economic Level of Leakage







Telemetric System



Refurbishment of Welvanpas Booster Pump Station October 2014



Valve Chamber (700mmØ) – Van der Stel Street, Paarl 2013



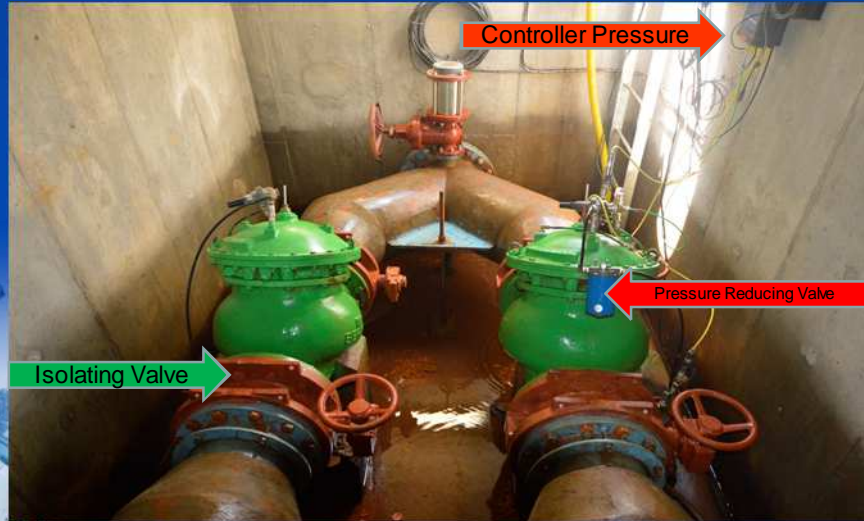
Valve Control Chamber- Newton Reservoir, Wellington - April 2015



PRV installation –Denneburg, Paarl



PRV & pressure/flow controller installation- Van der Stel Street, Paarl



Pearl Valley Bulk Water Meter – October 2014



Refurbishment of pipework at Van Blerk Reservoir, Wellington –September 2014



Water Burst pipe – Thom Street, Paarl (30 Oct 2014)



Challenges

- 🔥 **Funding of projects** (operational and capital funding)
- 🔥 **Shortage of qualified Technical personal**
- 🔥 **Vandalism/theft of infrastructure**

Thank You

