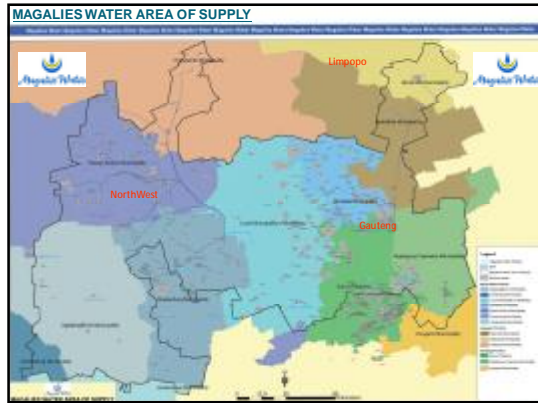


Magalies Water

BULK WATER SUPPLY INFRASTRUCTURE AUGMENTATION SCHEMES IMPLEMENTATION

Crocodile West Reconciliation Strategy Steering Committee

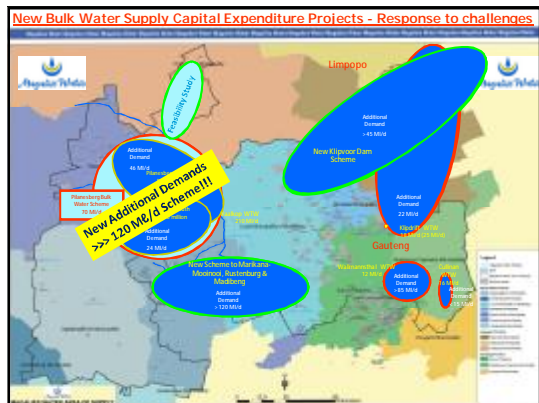
29 September 2011



Background to Bulk Infrastructure Backlogs

All Development Areas:

- Unavailability of sufficient bulk water to supply in demand
- Delayed / restricted development over past 10 years
- Limitations on macro area planning (IDP, SDF, WSDP, etc.)
- Limitations on Capital Funds (both MW & WSA's) adversely effect bulk infrastructure development & implementation
- Drought effects might affect bulk water supply
- Development needs & -dynamics require SDF's & IDP's to be reviewed timeously
- New SDF's, IDP's & WSDP's must be availed to DWA & WB's on approval (to be reviewed & included in infra- planning models)
- New development scenarios affects current demand projections
- Increased capital funding requirements
- MW indicated the option of partial capital funding through the water tariff to WSA's



CURRENT SITUATION
(Focus on Vaalkop System only)

S Vaalkop Water Board established 5 September 1969 i.t.o. Sect. 108(2) of the Water Act (Act 54 of 1956) to supply water for industrial and domestic use within its area of operation.

S Magalies Water's Vaalkop WTW has since supplied potable water for **domestic and industrial** use to urban, rural and industrial (mainly mining) consumers in Moses Kotane, Thabazimbi & Rustenburg LM^s.

S Plant & supply system since been extended up to Thabazimbi and Rustenburg areas with current capacity of 210M³/d, total length of 522km pipelines & total reservoir capacity of 248M³.

S **Original Pilanesberg Scheme:** add 60 M³/d plant & 70 M³/d distr. capacity, 80 M³ reservoir capacity & 105 km pipelines.

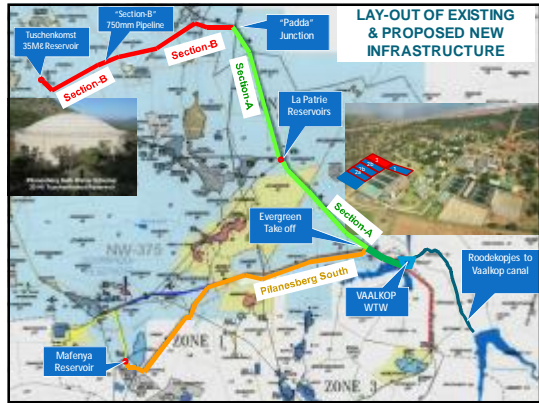
S Delayed implementation due to global economic downturn and other pending statutory approvals resulted in further growth in demand for industrial and domestic use - to be supplied through an **increased Pilanesberg bulk Water supply Scheme**, with further **benefit of scale** advantages to all scheme participants.

S Increased capacity of Scheme to **120 M³/d** required for implementation.

Current Situation

Vaalkop Area of Supply:

- Vaalkop WTW capacity: 210 ML/d
- Current demand / consumption = supply capacity (in peak demand periods)
- Pilanesberg Bulk Water Scheme will add 60 Ml/d treatment capacity and will increase distribution capacity with 70 Ml/d
- Total scheme cost R1.2 billion (52% Industrial consumers & 48% Domestic component)
- Joint implementation / funding of Scheme by MW and 4 mines
- One of the mines completed a new 30 km pipeline (750mm) and 35 Ml reservoir at Tuschenkomst to the value of R190M (balance of scheme implementation delayed mainly due to global economic down turn and funding & institutional arrangements)
- This scheme will support mining development as well as mining related domestic development and stabilise and support backlog domestic supply to the region (mainly rural)



Demand Patterns

S Volumes supplied

	Total [MI/day]	Industrial	Domestic
Current Supply *	180	77 (47%)	103 (53%)
Pilanesberg Bulk Water Scheme	70	38 (54%)	32 (46%)
Total	250	115 (46%)	135 (54%)
Growth	39%	49%	31%

* Assume Supply to Rand Water for Rustenburg = 50% Industrial & 50% domestic

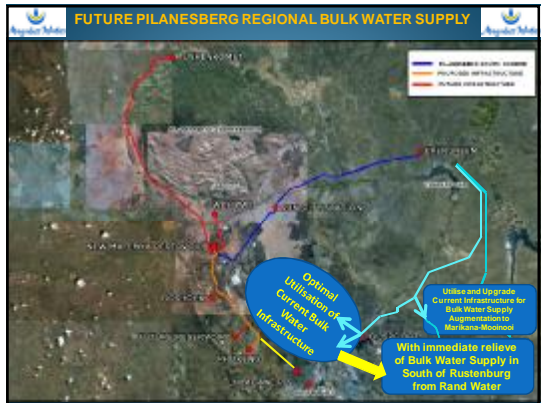
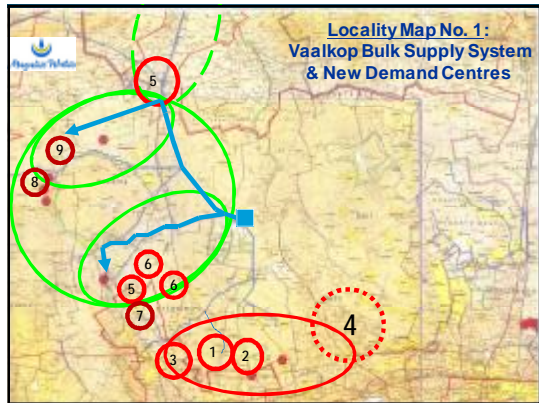
S Consumer profiles:

- Industrial
- Domestic (0 > basic > yard > higher?)

New Demands

S Additional Volumes requested to be supplied

	Total [MI/day]	Industrial	Domestic
Current Total * (incl. exist. PWS)	250	115 (46%)	135 (54%)
#3 - RLM	15.7		15.7 - RLM Capital
#5 - Northam	2	2	
#5 - Platinum	2	2	
#6 - New Mining	5	5	
#6 - New Mining	5	5	
#7 - RBA	>30		>30
#8 - New Mining	2	2	
#9 - New Mining	>25	>25	
Total New	>68	>23 (34%)	>45 (66%)
New Total	>318	138 (43%)	180 (57%)
Add Growth	27%	20%	33%
Total Growth	77%	79%	75%

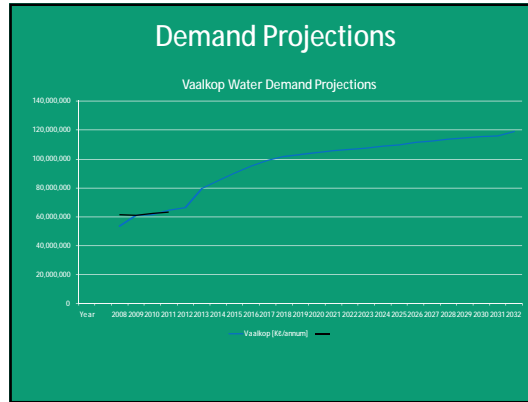


Economies of Scale Benefits

Design Capacity	70 Mℓ/day	100 Mℓ/day	120 Mℓ/day
Capital Cost	R1 309 Million (escalated)	R1 495 Million (estimated)	R1 630 Million (estimated)
Unit Capital Cost	R18-61/kℓ	R14-95/kℓ	R13-59/kℓ
Current O&M Cost	R3-20/kℓ (excl. capital)	R3-20/kℓ (excl. capital)	R3-20/kℓ (excl. capital)

S MW as DWA's licensed bulk water service provider must implement **WDM & conservation measures** and **regulating actions** accordingly and is consistently encouraging all consumers to this effect

S **Magalies Water will ensure most economic product to end consumer!**



Current Situation

Roodeplaat Development Area:

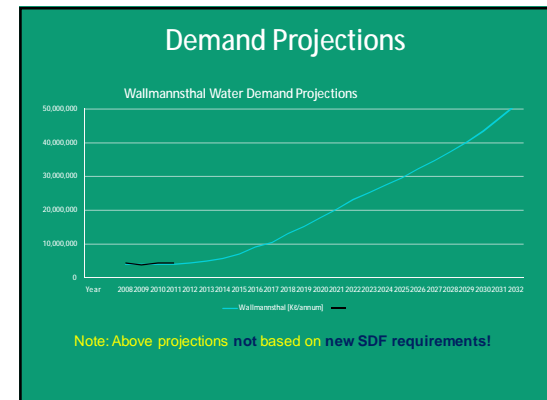
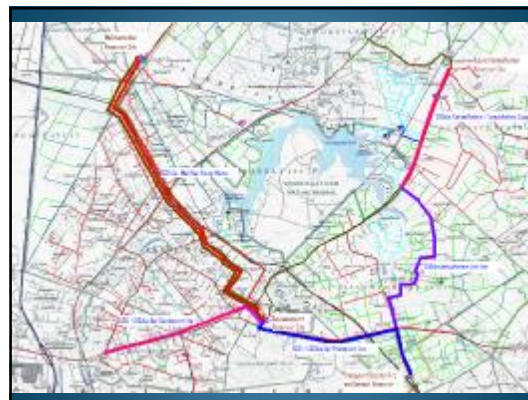
- Wallmannstal WTW capacity: 12 ML/d
- Current demand / consumption > supply capacity
- Add 10 ML/d from CTMM's Roodeplaat WTW will increase supply capacity to 22 ML/d
- MW completed the construction of the 4,5 rising main from Roodeplaat WTW to W-Res
- MW completed a new 10 ML reservoir at Baviaanspoort (demand projections however required 20 ML reservoir to be constructed for optimal system development)
- Capital shortfall of some R5.5 m resulted in insufficient reservoir capacity being constructed eventually

Short Term Bulk Requirements

Roodeplaat Development Area

Zeekoegat Pipeline Upgrade	8 km	R15m	2011/13
Bav-Derdepoort pipeline	5.5 km	R7m	2007/8
Wall-Bav Pumping line	10.6 km	R26.8m	2011/13
Wall-Bav Pump station		R9m	2011/13
Bav-Franspoort pipe line	6.3 km	R8.5m	2012/13
Wall-Reservoir	25 ML	R37m	2011/13
Leeuwfontein Link-line	6.0 km	R7.5m	2013/14
Kameelfontein-Leeuwfontein support (ditto) (from Rifweg)	4.0 km	R5m	2012/13
Bav-Reservoir	20 ML	R26m	2013/15
		R142.3m	

The above excludes add. medium & long term bulk water infrastr., raw water abstraction & treatment works



Current Situation

Cullinan Area of Supply:

- Cullinan WTW capacity: 16 MI/d
- Current demand / consumption < supply capacity
- MW budgeted for upgrading of the Rayton / Zonderwater pumpstation

Klipdrift Area of Supply:

- Klipdrift WTW capacity: 18 MI/d
- Current demand / consumption > supply capacity
- Nokeng applied for 5 MI/d allocation & 10 MI storage reservoir to Kekana Gardens (Steve Bhikoville)
- MW budgeted for upgrading of the Klipdrift WTW & the above bulk infrastructure

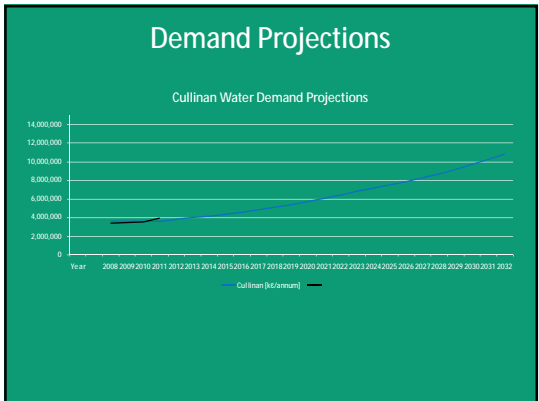
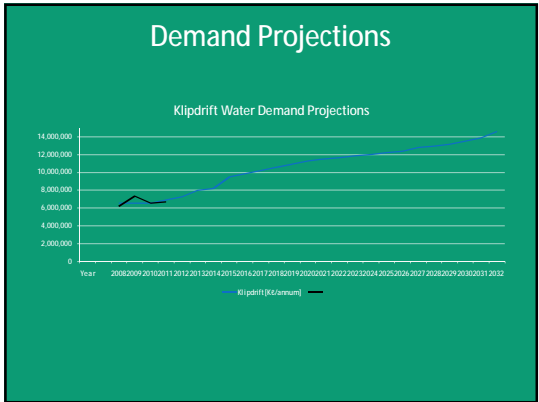
Short Term Bulk Requirements

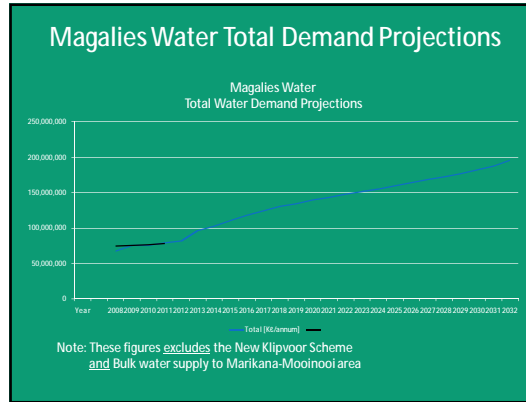
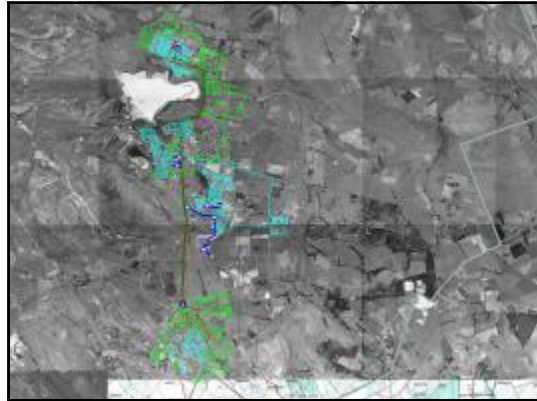
Cullinan Area of Supply:

Rayton/Zonderwater Pump station	Upgrade	R0.3m	2011/12
		R1.7m	
The above excludes add medium & long term bulk water infrastr., raw water abstraction & treatment works			

Klipdrift Area of Supply:

Additional treatment capacity	18 MI extensions	R52m	2011/13
Additional Plant storage capacity	10 MI	R14m	2011/12
Steve Bhikoville pump-station and pipeline	10 MI	R12m	2011/12
		R78m	





Raw Water Applications

Additional raw water licenses applied for with DWA:

Plant	Current Capacity (Current License)	License applied for	Total Capacity (if approved)
Vaalkop	210 Ml/d (160 Ml/d)	70 Ml/d APPROVED	270 Ml/d APPROVED
Wallmannsthal	12 Ml/d + 10 Ml/d (12 Ml/d)	> 30 Ml/d	> 42 Ml/d + 10 Ml/d
Klipdrift	18 Ml/d (20 Ml/d)	16 Ml/d	36 Ml/d
Cullinan	16 Ml/d (14.7 Ml/d)	7.7 Ml/d	22.4 Ml/d

Capacity Utilization

Name	% Utilization	Design Capacity (Ml/day)
• Vaalkop	90	210
• Klipdrift	122	18
• Wallmannsthal	100	12
• Cullinan	82	14

- ### Additional Bulk Infrastructure Needs
- **Bulk supply system:**
 - Pipelines (pumping & gravity mains & link lines)
 - Pump stations
 - Reservoir storage capacity
 - **Treatment system/s:**
 - Treatment capacity (DWA licensing required)
 - Abstraction works (canals, river weirs, pipelines, p/s^{ns})

- ### Distribution Infrastructure Needs
- Reticulation network upgrades & extensions (bulk and retail)
 - Additional demand reservoirs
 - Booster pump stations
 - Sanitation excluded for current scenario
- Although reticulation & other distribution network infrastructure are the responsibility of the WSA's, MW (as WSP) will assist in the planning, funding application/s and implementation processes thereof if so required

MAJOR CAPEX PROGRAM

DEPARTMENT/PLANT	Description	FUNDING SOURCE				
		2011/12	2012/13	2013/14	2014/15	GRAND TOTAL
ANKOP	Reposition vehicle sections and repair	1,000,000	2,000,000			3,000,000
	Upgrade Klerksgriff/Bethesda Pipeline	1,500,000	10,500,000	7,000,000		27,000,000
	Ni Valve Replacement & Chamber Shallowing	300,000	600,000			900,000
	Infrastructure Condition & Capacity Assessment	100,000	900,000			1,000,000
	4 Phase Reservoir	2,500,000	10,500,000	7,415,000		20,415,000
	Pilanesberg Northern Scheme	515,000,000	114,000,000	80,000,000		689,000,000
	Pilanesberg Southern Scheme	40,000,000	70,000,000			110,000,000
	Incremental increase in Capacity of Pipeline	20,000,000	14,500,000	14,400,000	15,612,000	64,512,000
ANKOP TOTAL		240,420,000	209,945,000	103,888,000		554,253,000
WALLMANNSTHAL	Wallmannsthal System Upgrade	2,000,000	21,000,000	11,845,450		34,845,450
	SWM Reservoir	3,000,000	20,000,000	14,018,500		37,018,500
	Water Treatment Pumping System	1,500,000	6,275,000	18,201,500		25,976,500
	Sanitary Pipeline Upgrade (MPS-Drig School)	1,000,000	7,000,000	6,595,000		14,595,000
	Office Building Upgrade	3,000,000	3,000,000			6,000,000
	Infrastructure Condition & Capacity Assessment	750,000				750,000
WALLMANNSTHAL TOTAL		11,250,000	57,275,000	51,769,450		120,494,450
KLIPDRIFT	Supply Upgrade	500,000	5,500,000	2,400,000		8,400,000
	WML Reservoir	500,000	10,500,000	3,041,500		14,041,500
	Flow Restricted Reservoir	2,000,000	10,210,000			12,210,000
	Extension of Head	2,000,000	20,000,000	10,845,000		40,845,000
	Infrastructure Condition & Capacity Assessment	850,000				850,000
KLIPDRIFT TOTAL		5,850,000	57,210,000	16,291,000		79,351,000
CULLINAN	Upgrading of Zandwater Pumpstation	500,000	1,105,000			1,605,000
	Infrastructure Condition & Capacity Assessment	400,000				400,000
CULLINAN TOTAL		900,000	1,105,000			2,005,000
HEAD OFFICE	Capital Project Implementation Programme	2,400,000	2,000,000	2,000,000		6,400,000
	Strategic Asset Assessment and Planning		500,000	1,000,000		1,500,000
HEAD OFFICE TOTAL		2,400,000	2,500,000	3,000,000		7,900,000
GRAND TOTAL		249,820,000	328,956,000	255,449,450	69,793,000	905,888,450

Estimated Backlog Eradication

DEPARTMENT/PLANT	Description	FUNDING SOURCE	New Capacity	Estimated Backlog Eradication			Benefits	Start	Finish
				Addition	Reduction	Sub-Total			
ANKOP	Reposition vehicle sections and repair	1,000,000							
	Upgrade Klerksgriff/Bethesda Pipeline	1,500,000	27,000,000			27,000,000			
	Ni Valve Replacement & Chamber Shallowing	300,000							
	Infrastructure Condition & Capacity Assessment	1,000,000							
	4 Phase Reservoir	2,500,000	20,415,000			20,415,000			
	Pilanesberg Northern Scheme	515,000,000	114,000,000			114,000,000			
	Pilanesberg Southern Scheme	40,000,000	70,000,000			70,000,000			
	Incremental increase in Capacity of Pipeline	20,000,000	14,500,000			14,500,000			
ANKOP TOTAL		240,420,000	209,945,000			209,945,000			
WALLMANNSTHAL	Wallmannsthal System Upgrade	2,000,000	34,845,450			34,845,450			
	SWM Reservoir	3,000,000	37,018,500			37,018,500			
	Water Treatment Pumping System	1,500,000	25,976,500			25,976,500			
	Sanitary Pipeline Upgrade (MPS-Drig School)	1,000,000	14,595,000			14,595,000			
	Office Building Upgrade	3,000,000	6,000,000			6,000,000			
	Infrastructure Condition & Capacity Assessment	750,000	750,000			750,000			
WALLMANNSTHAL TOTAL		11,250,000	120,494,450			120,494,450			
KLIPDRIFT	Supply Upgrade	500,000	8,400,000			8,400,000			
	WML Reservoir	500,000	14,041,500			14,041,500			
	Flow Restricted Reservoir	2,000,000	12,210,000			12,210,000			
	Extension of Head	2,000,000	40,845,000			40,845,000			
	Infrastructure Condition & Capacity Assessment	850,000	850,000			850,000			
KLIPDRIFT TOTAL		5,850,000	79,351,000			79,351,000			
CULLINAN	Upgrading of Zandwater Pumpstation	500,000	1,605,000			1,605,000			
	Infrastructure Condition & Capacity Assessment	400,000	400,000			400,000			
CULLINAN TOTAL		900,000	2,005,000			2,005,000			
HEAD OFFICE	Capital Project Implementation Programme	2,400,000	6,400,000			6,400,000			
	Strategic Asset Assessment and Planning		1,500,000			1,500,000			
HEAD OFFICE TOTAL		2,400,000	7,900,000			7,900,000			
GRAND TOTAL		249,820,000	328,956,000			328,956,000			

Job Creation Opportunities: Capital Infrastructure Projects

Project	Company/ SOE/ Government	Investment Value R	Total Employment Opportunities 2011/12	Total Employment Opportunities	Critical reforms required to realise the jobs
Pilanesberg Water Scheme	Magalies Water				
Construction Phase of Water Scheme	Magalies Water	1.2 billion	300 temporary	710 temporary	N1 / DWA to approve MW increased R600m Borrowing Limits
	New Mines			Employees: 6000 Management: 160 Skilled/Prof: 640 Semi-skilled: 5200	Successful completion of the Water Scheme
	Additional Mines			Employees: 5740 Management: 140 Skilled/Prof: 600 Semi-skilled: 5000	Approval of addition Scheme Participants & Increased Water Scheme

Job Creation Opportunities: Capital Infrastructure Projects

Project	Company/ SOE/ Government	Investment Value R	Total Employment Opportunities 2011/12	Total Employment Opportunities	Critical reforms required to realise the jobs
Wallmannsthal & Cullinan Bulk Water Infrastructure	Magalies Water	116 million	67 temporary	95 temporary	Successful appointment of Contractor to complete infrastructure
Wallmannsthal Office Building	Magalies Water	3 million	15 temporary	20 temporary	Successful appointment of Contractor to complete infrastructure
Klipdrift Bulk Water Infrastructure	Magalies Water	79 million	35 temporary	75 temporary	Successful appointment of Contractor to complete infrastructure

- ### Capital Expenditure - Summarised
- The Entity plans to commence Projects as follows:
 - Infrastructure Expansion Projects
 - 2012 Planned Projects = R 1.3 bil (Exclusive of mine's contribution)
 - Funding Plan:
 - Own investments (reserves) –R264 Million
 - From New borrowings – R661 Million
 - Participants (Municipalities) in the Pilanesberg Scheme – R600M
 - Other Schemes – R61 Million
 - Requesting capital injection of at least R 500 mil from shareholder

- ### Joint Macro Planning
- Development dynamics urged & resulted in joint macro planning & strategic coordination for the Roodeplaat Development Area between MW, NTILM & Consultants
 - Metsweding initiated the development of an "infrastructure management query system during 2005/06 (GLS - IMQS-model) MW partook & assisted GLS with planning & bulk info for Nokang area
 - New demand projections & infrastructure development requirements must be reflected in the respective WSDP's
 - MW currently coordinates these requirements with Thabazimbi LM, Moses Kotane LM, Rustenburg LM and RBA, Modimolle & Bela Bela and Moretele LM's
 - MW also negotiates funding approvals and grants (RBIG) with DWA and National Treasury (domestic & social components of the schemes)
 - More focused water resources planning required
 - especially for the Roodeplaat & Klipdrift areas
 - MW currently coordinates and negotiates with DWA (limited local resources should be optimally resourced before more costly raw water augmentation schemes are considered)

Conclusion

- Prompt license approval is crucial, in order to supply in the growing demand of the area
- Capital funding requirements to be resourced timeously to implement supporting infrastructure in time
- Water Boards should be encouraged to apply for Grant Funding (e.g. RBIG) on behalf of WSA's to implement bulk water infrastructure projects
- EIA processes should be accelerated and not allowed to unnecessarily delay infrastructure project implementation
- Joint macro planning between MW & WSA's must continue
- Magalies Water will continue to partake in DWA's water resources planning and water resource management activities

THANK YOU