

DEPARTMENT: WATER AFFAIRS
AMATOLE SYSTEM RECONCILIATION STRATEGY
STRATEGY STEERING COMMITTEE MEETINGMINUTES OF THE STRATEGY STEERING COMMITTEE MEETING No. 4
HELD ON 5 OCTOBER 2010 AT 8.30 AM AT THE EAST LONDON GOLF CLUB

							ACTION
1.	WELCOME AND INTRODUCTION PvN welcomed all to the fourth meeting of the Amatole System Strategy Steering Committee.						
2.	ATTENDANCE AND APOLOGIES						
2.1	Attendance:						
	Name	Organisation	Initials	Tel. No.	Fax No.	E-mail address	
	Ashley Starkey	DWA:RO	AS	043-604 5406	086 612 9487	starkeya@dwa.gov.za	
	Andrew Lucas	DWA:RO	AL	043-604 5403	043-604 5592	lucasa@dwa.gov.za	
	Dennis Smith	BKCOB	DS	043-726 0074	043-726 0600	dsmith@eceng.co.za	
	Glenn Daniell	DWA:NWRI	GD	041-508 9706	041-581 1964	daniellg@dwa.gov.za	
	B. Kama	DWA:EC	BK	082 887 6425	086 659 0188	kamab@dwa.gov.za	
	Frans Stoffberg	DWA:HO	FS	012-336 8319	012-336 8295	stoffbergf@dwa.gov.za	
	Isa Thompson	DWA:HO	IT	012-336 8295	012-336 8295	thompsoni@dwa.gov.za	
	Jenny Pashkin	DWA:HO	JP	012-336 8695	012-336 6731	pashkini@dwa.gov.za	
	Johan van Rooyen	DWA:NWRP	JvR	012-336 8814	012-308 3477	vanrooyeni@dwa.gov.za	
	Pieter van Niekerk	DWA:IWRP	PvN	012-336 8762	012-336 8295	niekerkp@dwa.gov.za	
	K. Oosthuysen	DWA: Cradock	KO	048-881 3005	048-881 3545	oosthuizenk@dwa.gov.za	
	M. Kawa	DWA:RO	MK	043-701 0328	086 614 2180	kawam@dwa.gov.za	
	Martin Labuschagne	DWA:WUR	ML	048-881 3005	048-881 3545	labuschagnem@dwa.gov.za	
	Stephen Mallory	IWR	SM	012-365 2121	012-365 2121	Stephen@waterresources.co.za	
	Z. Keke	DWA:RO	ZK	043-604 5400	043-604 5595	kekez@dwa.gov.za	
	Larry Field	(UWP) Umhlaba	LF	043-726 5408	043-721 2957	larry@ikdev.co.za	
	Masonwabe	BCM	MM-	043-705 2464	043-743 5266	masonwabem@buffalocity.gov.za	
	Mayekiso		BCM				
	Sieg Rousseau	Amatola Water	SR	043-707 3700	043-707 3701	srousseau@amatolawater.co.za	
	Wayne Selkirk	(UWP) : PCT	WS	043-740 4735	043-740 2238	pctoffice@mweb.co.za	
	Wayne Ketteringham	UWP Consulting	WK	043-721 0186	043-721 0288	waynek@uwp.co.za	
	Natasha Ewing	UWP Consulting	NE	043-721 0186	043-721 0288	natasha.e@uwp.co.za	
2.2	Apoloies:						
	Name	Organisation	Initials	Tel. No.	Fax No.	E-mail address	
	Dewald Coetzee	DWA:NWRI	DC	041-586 4884	041-586 0379	coetzee@dwa.gov.za	
	Dr. Beason Mwaka	DWA:WRPS	Dr. B	012-336 8188	012-336 6731	mwakab@dwa.gov.za	
	Archie Thobejane	DWA:HO	AT	012-336 7869	012-336 8295	thobejanea@dwa.gov.za	
	Cllr Nomiki Mgesi	BCM	NM	043-705 2097	086 624 9294	nomikim@buffalocity.gov.za	
	Graham Cowley	BCM	GC	043-705 2084	043-722 3606	grahamc@buffalocity.gov.za	
	JF (Kowie) Joubert	Dept. of Agricult.	JJ	043-683 5404	043-683 1829	kowie.joubert@agr.ecprov.gov.za	
	Mr. Krizinger	AgriEC (PE)	Mr.K	041-363 1890		Sharlene.matthews@agriec.co.za	
	Stephen Mullineux	DWA	SM	048-881 3545	048-881 3545	mullins@dwaf.gov.za	
	Theo Geldenhuys	DWA:EC RO	TG	048-881 3005	048-881 3545	geldenhuyst@dwa.gov.za	
3.	ACCEPTANCE OF AGENDA The draft agenda circulated prior to the meeting was adopted without changes.						
4.	ACCEPTANCE OF PREVIOUS MINUTES						
4.1	Acceptance of the minutes The minutes of the previous meeting were accepted as a true reflection of the previous meeting without changes.						
4.2	Matters arising not on the agenda						
	<ul style="list-style-type: none"> • Inclusion of the Strategy on Provincial intergovernmental forums: <ul style="list-style-type: none"> ➢ AL advised that he is still in the process of getting the Amatole and other reconciliation strategies onto the various Provincial Intergovernmental forums but that this was proving to be problematic for various reasons, including time allocations, focus of meetings and reluctance to accept the recommendations of the All Towns Reconciliation Strategies Study. ➢ Following extensive debate it was agreed that it would be necessary for DWA: HO and DWA:RO staff to meet outside of this meeting, to agree on how best to accomplish the required objectives. • Memberships and ToRs of the respective committees: <ul style="list-style-type: none"> ➢ WK confirmed that these have been circulated to all the new committee members. 						DWA:HO DWA:RO

		ACTION
	<ul style="list-style-type: none"> Clarification of registration of water use from Wiggleswade Dam <ul style="list-style-type: none"> ZK confirmed that DWA: RO had written to ADM correcting the water use registration. 	
5.	IMPLEMENTATION OF THE STRATEGY Copies of presentations were either included in Annexure A of the meeting bundle or were made available at the meeting.	
5.1	BACKGROUND IT presented a brief overview of the reconciliation options identified in terms of the Strategy and reiterated that WC/WDM is the key reconciliation option for the Amatole Reconciliation Strategy. IT also highlighted the economic benefit savings achieved through WC/WDM interventions has in delaying investment in large capital infrastructure.	
5.2	Water Conservation and Water Demand Management	
5.2.1	Buffalo City Municipality <ul style="list-style-type: none"> MM-BCM gave an overview of initiatives undertaken to date as well as the ongoing/planned initiatives and challenges faced in implementing WC/WDM interventions. In particular MM-BCM highlighted the following: <ul style="list-style-type: none"> BCM have committed funding of R11 million over the 2010/2011 and 2011/2012 financial years to implement 4 WC/WDM projects, which seek to achieve a collective saving of 4.7 million m³/a over the next 2 years. Monthly reports on the extent of unaccounted for water are submitted to Council. DWA have committed R1.5 million to assist BCM in undertaking a communication/awareness programme as well as to review their WC/WDM Strategy. BCM are in the process of drafting a report to Council to adopt a WC/WDM implementation plan amounting to some R160 million over a 9 year period. Given the competing development needs in BCM, securing funding to implement WC/WDM projects will remain uncertain, even if the implementation plan is adopted. Following discussions it was agreed that DWA would write to BCM highlighting the need to implement WC/WDM projects/initiatives in a sustained way to ensure a secured long-term water supply. <ul style="list-style-type: none"> There is a need to determine/evaluate the economic benefits of WC/WDM projects as once these are understood, the likelihood of sustained funding streams to implement WC/WDM interventions should increase. There is a need to institutionalise WC/WDM throughout BCM. 	MM-BCM JvR/IT MM-BCM MM-BCM
5.2.2	Amatola Water <ul style="list-style-type: none"> SR provided a brief report on the losses at their respective WTPs and on their bulk pipelines. In particular SR identified the need to: <ul style="list-style-type: none"> Review the effectiveness of meter reading and the functionality of certain meters. Further investigate certain distribution losses, particularly on the Laing Dam System. 	SR SR
5.2.3	Amathole District Municipality <ul style="list-style-type: none"> No report was received from the ADM. It was agreed that ADM reporting should remain on the agenda, despite the nominal savings potential in this instance. 	
5.2.4	Kubusi Irrigation Board <ul style="list-style-type: none"> No report was received from the KIB. It was agreed that KIB reporting should remain on the agenda, despite the nominal savings potential in this instance, as well as the uncertainty as to who should benefit from any future savings. 	
5.3	Re-use	
5.3.1	DWA <ul style="list-style-type: none"> JvR presented an overview of the progress being made by DWA in developing a National Re-use Strategy, and highlighted the need to establish uniform norms and standards in terms of re-use. The draft National Re-use Strategy should be available for comment early in 2011. JvR also provided an overview of work being undertaken by Ethikweni, City of Cape Town and Nelson Mandela Bay Municipality in terms of re-use. JvR confirmed that further updates would be provided at future ASSSC meetings. 	JvR



		ACTION
5.3.2	<p><i>Potential for Re-Use within the AWSS</i></p> <ul style="list-style-type: none"> A report in this regard was made available as part of the meeting pack. It was requested that comments on the report be forwarded to WK within 2 weeks of this ASSSC meeting i.e. by 22 October 2010, to allow for the finalisation and formal circulation of the report. WK gave a presentation on the report, which confirmed that water re-use is both viable and competitive when compared with other surface water augmentation options. The recommendations contained in the report, that BCM both develop a Water Re-use Strategy and undertake further studies to identify and evaluate re-use options, were accepted by the ASSSC. It was also agreed that the ASATSG could assist BCM in defining the scope of work required to develop a Re-Use Strategy. Following certain discussions, it was agreed that DWA would also write to BCM reinforcing the need for BCM to develop a Re-use Strategy and to identify and cost re-use options for consideration for implementation as part of the Reconciliation Strategy. 	<p>ALL</p> <p>MM-BCM/WK</p> <p>JvR/IT</p>
5.3.3	<p><i>Buffalo City Municipality</i></p> <ul style="list-style-type: none"> MM- BCM stated that they are in the process of putting a report through to Council to motivate for funding to develop a Re-use Strategy for BCM. 	<p>MM-BCM</p>
5.4	<p>Surface Water Augmentation Options</p>	
5.4.1	<p><i>Completion of Kubusi/Yellowwoods Link (DWA:OA)</i></p> <ul style="list-style-type: none"> IT confirmed that the DWA:OA studies had stopped due to funding and procurement constraints and that it was unlikely that they would re-commence given the findings of the Operating Rules Study. It was agreed that: <ul style="list-style-type: none"> The Kubusi/Yellowwoods should no longer be seen as a constraint in terms of long-term reconciliation planning. That the need for pedestrian foot bridges would need to be evaluated and implemented by ASSOCC. 	
5.4.2	<p><i>Next Schemes (DWA:OA)</i></p> <ul style="list-style-type: none"> Refer to item 6 of the minutes. 	
5.5	<p>Desalination</p>	
5.5.1	<p><i>Department of Water Affairs</i></p> <ul style="list-style-type: none"> JvR gave an overview of the progress being made by DWA in developing a National Desalination Strategy, as well as the work being undertaken in Cape Town, Ethikweni, Witbank (mine water) and in Sedgefield/Mossel Bay in this regard. The draft National Desalination Strategy should be available for comment early in 2011. JvR also advised that there are ongoing discussions as to who should be responsible to implement large scale re-use schemes (DWA or the WSA). Further overviews/updates will be provided at future ASSSC meetings. 	<p>JvR</p>
5.5.2	<p><i>Buffalo City Municipality</i></p> <ul style="list-style-type: none"> MM-BCM advised that BCM were not considering desalination as an augmentation option at present, but would do so at a later date once the National Desalination Strategy had been developed and the findings of initiatives being undertaken by others are made available. 	
5.6	<p>Stream flow enhancement</p> <ul style="list-style-type: none"> It was confirmed that work was being undertaken by DWA: WfW in the Amatole catchment, focusing primarily in the Kubusi area. DWA: WfW initiatives are primarily best practise/maintenance focused, as opposed to yield enhancement focused. 	
6.	<p>REVIEW OF THE STRATEGY</p> <p>The Status Report was made available prior to the meeting and included as Annexure B of the meeting bundle.</p> <ul style="list-style-type: none"> WK gave a brief presentation on the Status Report and highlighted the following. <ul style="list-style-type: none"> Measures to reduce the requirement or to increase the yield need to be in place by 2015. The future growth scenarios include for supplies to the area west of East London i.e. Kayser Beach, Kidds Beach etc. A supply to the Great Kei area is still being considered as a scenario, although the earliest potential impact thereof, if implemented, is considered to be 2016, i.e.it will not impact on the current water balance requirements. 	



		ACTION
	<ul style="list-style-type: none"> ➢ The following 8 reconciliation scenarios were considered: <ul style="list-style-type: none"> ▪ 3 Scenarios seeking to meet the high-growth water requirement scenario without the EWRs, with varying degrees of effectiveness in implementing WC/WDM i.e.(100%; 50% and 25%) and surface water augmentation options thereafter. ▪ 3 options as per the above, except with re-use augmentation options being considered as opposed to surface water augmentation options. ▪ 1 scenario to meet the high-growth water requirement scenario with the implementation of the EWRs. ▪ 1 scenario to meet the low-growth water requirement scenario with the implementation of the EWR. • The following conclusions are drawn/observations made in evaluating the above scenarios: <ul style="list-style-type: none"> ➢ The implementation of WC/WDM, as well as the effectiveness thereof, is critical for achieving reconciliation of available water and requirements going forward. ➢ The impact of including the Great Kei LM area within the AWSS, is to bring the required implementation date of the next reconciliation intervention forward by at least 5 years. ➢ There is a high risk of “failure” of the System, in that a small variation in requirement has a large impact in the time required to implement the next reconciliation intervention. • The following recommendations put forward, were adopted by the ASSSC: <ul style="list-style-type: none"> ➢ BCM must implement new WC/WDM projects, which seek to save at least 1.2 million m³/a over the next 8 years with first savings to be delivered by June 2014. ➢ DWA: OA should commence with prefeasibility studies of likely schemes in 2011. ➢ A screening workshop be held in 2011 to prioritise options that DWA: OA should study. ➢ BCM must develop a Re-Use Strategy in 2011; ➢ BCM must identify re-use projects for consideration that seek to deliver at least 2.9 million m³/a over 5 years, with first yield being delivered as from 2016. • IT confirmed that the screening workshop would be scheduled for February 2011. • JvR stated that the ASATSG needs to start preparing for the work necessary to formalise/finalise the EWRs, so that the ASSSC is adequately informed to respond in this regard. • JvR stated that reconciliation mapping should always reflect a 25 year planning horizon. • Following discussions it was agreed that the requirement projections are adequate for now and would only be reviewed after the census 2011 data became available. • WK requested that comments /edits required to the Status Report be forwarded to him by 15 October 2010 to allow for the finalisation and formal circulation of the Status Report. 	<p>BCM</p> <p>DWA:OA ASATSG DWA:OA BCM</p> <p>BCM ASATSG</p> <p>ASATSG</p> <p>WK</p> <p>ALL</p>
<p>7. WATER QUALITY</p>	<ul style="list-style-type: none"> • WS gave an overview of the water quality situation in the Amatole System, the sampling currently being undertaken by the various stakeholders, the extent to which this data is being converted to relevant information, as well as the extent to which corrective measures are being enforced. In particular WS highlighted the following: <ul style="list-style-type: none"> ➢ The limited true understanding of the raw water quality within the System ➢ Known non-compliant effluent discharges from WWTWs and certain industries within the System ➢ Duplication of sampling effort ➢ The lack of centralisation/sharing of data, as well as the absence of verification as to the quality of the data ➢ The absence of converting the data to useful information to assist in informed decision making to address a wide variety of issues. ➢ The need for a Water Quality Champion. • AL circulated a table indicating potential sources of pollution as well as those responsible to monitor and take corrective actions where required. AL also confirmed that effective WQ regulation was not taking place at present. • Following extensive discussion it was agreed that: <ul style="list-style-type: none"> ➢ ASSOCC are the responsible body for reporting on water quality issues to the ASSSC ➢ DWA:RO to review and enhance effective sampling, data management and data interpretation as well as regulation. ➢ ASATSG develop a framework/format for WQ reporting to ASSSC. 	<p>ASSOCC</p> <p>DWA:RO ASATSG</p>
<p>8. COMMUNICATION OF THE STRATEGY</p>	<p>Copies of the presentation were made available at the meeting and incorporated in Annexure D of the meeting bundle.</p>	



		ACTION
8.1	Progress Report LF provided an overview of work undertaken to date, including the media breakfast, press release and the circulation of newsletter No.1.	
8.2	Press Release <ul style="list-style-type: none"> • Following discussions it was agreed that: <ul style="list-style-type: none"> ➢ Press release No.2, focusing on the imminent water restrictions and the need for WC/WDM (water use efficiency), should be prepared for release within 2 to 4 weeks of the ASSSC meeting. ➢ The timing of the release, as well as the final content thereof, may depend on ASSOCCs progress in notifying stakeholders to prepare to implement restrictions, as well as the notification of political stakeholders thereof. 	LF/ ASATSG
8.3	Newsletter <ul style="list-style-type: none"> • LF presented a framework for newsletter No.2, as well as the time frames and mechanism for circulation thereof. • Following debate it was agreed that: <ul style="list-style-type: none"> ➢ The newsletter should be ready for circulation within 2 to 4 weeks. ➢ The final contents of the newsletter be approved by the ASATSG. 	LF/ ASATSG
8.4	Communiqué to Stakeholder Senior Management <ul style="list-style-type: none"> • JvR reiterated the need for the early finalisation of the Status Report, as well as for ASSSC members to report back to their respective senior managements as to the status regarding the implementation of the Strategy, as well as the responsibilities of their respective institutions in this regard. • WK confirmed that the web access address to the DWA 2010 Situational Analysis on Integrated Water Resources Analysis Planning for South Africa, has been circulated to ASSSC members. 	ALL
9.	ASOCC REPORT	
9.1	Current operation <ul style="list-style-type: none"> • GD advised that: <ul style="list-style-type: none"> ➢ Releases from Wriggleswade Dam into the Yellowwoods River are ongoing. ➢ Works to the intake stacks at Laing Dam are ongoing and would only be completed within 6 to 8 months time. ➢ Water is currently being siphoned over the Laing Dam wall into the Buffalo River but could be pumped if so required. 	DWA/NW RI
9.2	Annual Restrictions <ul style="list-style-type: none"> • SMa gave a presentation on the most recent annual operation analysis and in particular highlighted the following: <ul style="list-style-type: none"> ➢ The System yield when operated as an integrated system: He advised that work in this regard are ongoing and that for reconciliation planning purposes one should continue to work with the current yield of 95 million m³/a. ➢ The current water balance: There is surplus yield in the System. ➢ The current state of storage of the respective dams: That the System storage is at 48% of FSC and that level one restrictions need to be imposed at 45% of FSC. ➢ The non-functionality of the Laing Dam outlet works reduces the short-term system yield and is causing Wriggleswade Dam to drop faster than predicted. ➢ The rainfall record for the last 7 months in the Wriggleswade Dam catchment is the lowest in the 85 year record. • After debate it was agreed that there was an urgent need for ASSOCC to meet to start preparing the relevant stakeholders for the implementation of restrictions, as the administrative procedures to bring these into effect could take 2 to 4 months. 	DC ASSOCC
11.	SUMMARY OF INSTRUCTIONS TO THE ASATSG <ul style="list-style-type: none"> • Assist BCM to outline the scope of work required to develop a Water Re-Use Strategy. • Complete the report on the Potential for Water Re-Use within the AWSS and forward to BCM for consideration. • Develop a framework for the formalisation/finalisation of the EWRs. • Develop a framework for the reporting required to the ASSSC in terms of water quality. • Prepare Press Release No.2 and Newsletter No.2 for circulation within 2 to 4 weeks of this meeting. • Finalise the Status Report and prepare for circulation within 2 weeks. 	



		ACTION
12.	DATES OF NEXT MEETING <ul style="list-style-type: none">• 19 April 2011	
13.	CLOSURE <ul style="list-style-type: none">• PvN thanked all for their attendance and participation and closed the meeting.	

Distribution List

NAME	ORGANISATION	POSITION / DESIGNATION	TEL. NUMBER	FAX NUMBER	CELL PHONE NUMBER	E-MAIL ADDRESS
Peter van Niekerk	DWA : IWRP	CD : IWRP	012-336 8762	012-336 8295		vanniekerkp@dwa.gov.za
Johan van Rooyen	DWA : NWRP	D : NWRP	012-336 8814	012-336 8295		vanrooyenj@dwa.gov.za
Solly Mabuda	DWA : OA	D : OA	012-336 8477	012- 336 7399		MabudaS@dwa.gov.za
Dr Beason Mwaka	DWA : WRPS	D : WRPS	012-336 8188	012-336 6731		mwakab@dwa.gov.za
Paul Herbst	DWA : HO	D : WUE				herbstp@dwa.gov.za
Pieter Viljoen	DWA : WRPS	DD : WQP	012-336 7514	086 620 6472		viljoenp@dwa.gov.za
K. Viljoen	WDA : NWRI		042-243 6109	042-243 1801		viljoenk@dwa.gov.za
Dewald Coetzee	DWA : WRI	CD : WRI	041-586 4884	041-586 0379		coetzed@dwa.gov.za
Michelle Meyer	DWA	PA to Dewald Coetzee				meyerm2@dwa.gov.za
Kama Bolekwa	DWA : RO	Pro-CMA WMA 12 : Mzimvubu to Keiskamma				
Nomonde Mnukwa	DWA	Chief Director: EC				
Z. Keke	DWA : RO	CD : RO	043-604 5400	043-604 5595		kekez@dwa.gov.za
Andrew Lucas	DWA:RO	Director: Regulation & Use				lucasa@dwa.gov.za
Clr Nomiki Mgesi	BCM	Portfolio Councillor	043-705 2097	086 624 9294	082 327 4194	nomikim@buffalocity.gov.za
Nceba Ncunyana	BCM	D:Engineering Services	043-705 2408	043-743 5266		nceban@buffalocity.gov.za
Graham Cowley	BCM	GM : Water, Sanitation & Scientific Services	043-705 2084	043-722 3606	082 655 7194	grahamc@buffalocity.gov.za
Craig Thompson	Amatola Water		043-707 3700	043-707 3701		cthompson@amatolawater.co.za
JF (Kowie) Joubert	DoA		043-683 5404	043-683 1829	083 286 0363	kowie.joubert@arg.ecprov.gov.za
Nico Jonker	ADM	D:Engineering Services	043-701 4004	043-722 4081		nicoj@amatoledm.co.za
Mpumelelo Shezi	ADM	WSA Manager	043-701 5152	043-722 4081	083 517 9069	mpumelelos@amatole-dm.co.za
Monde Nkasawe	Office of the Premier		043-642 1839			monde.nkosawe@olp.ecprov.gov.za
Brian Noncembu	Environmental Affairs	Regional Manager : Amathole	043-707 4000			briant.nponcembu@deat.ecape.gov.za
Johan Burger	IDZ		043-702 8250	043-702 8217		johan@elidz.co.za
Mr. Kritzinger	AgriSA (PE)		041-363 1890			sharlene.matthews@agriec.co.za
Les Holbrook						
B. Duda	Water Resoucrs ELIDZ		043-702 8200	043-702 8250		bonny@elidz.co.za
Rob Featherstone	Kubusi Irrigation Board					feather@hazeldean.co.za
Isa Thompson	DWA : HO	NWRP : Study Leader	012-336 8647	012-336 8295	082 805 2158	thompsoni@dwa.gov.za
Archie Thobejane	DWA : HO	NWRP : South	012-336 7869	012-336 8295	082 903 4218	thobejanea@dwa.gov.za
Theo Geldenhuys	DWA : RO	WR&U	048-881 3005	048-881 3545	082 808 0499	geldenhuyst@dwa.gov.za
Menard Mugumo	DWA : HO	OA : CE (South)	012-336 6838	012-336 7399	082 804 5162	mugumom@dwa.gov.za
Chabedi Tsatsi	DWA : HO	WUE	012-336 8172	012-336 8086	082 888 0974	tsatsic@dwa.gov.za
Unathi Mila	DWA: HO	WUE	012 336 8518	012 336 7366	084 983 0791	milau@dwa.gov.za
Rongqui Cai	DWA : HO	WRPS : SO DCE (South)	012-336 8695	012-336 6731	082 804 3143	cair@dwa.gov.za
				012-336 8295	082 808 5650	stoffbergf@dwa.gov.za
Glenn Daniell	DWA	WRIB				daniellq@dwa.gov.za
Galelo Mbambisa	DWA	Director: Water Sector Support				
Stephen Mullineux	DWA : RO	WR&U	048-881 3005	048-881 3545	082 809 5687	mullins@dwa.gov.za
Martin Labuschagne	DWA : RO	WUE	048-881 3005	048-881 3545	083 627 5925	labuschagnem@dwa.gov.za
K. Viljoen	WDA : NWRI		042-243 6109	042-243 1801		viljoenk@dwa.gov.za
M. Kawa	DWA : RO		043-701 0328	086 614 2180		kawam@dwa.gov.za
Masonwabe Mayekiso	BCM	WSA Manager	043-705 2464	043-743 5266		masonwabem@buffalocity.gov.za
Sieg Rousseau	Amatola Water	Senior Water Resources Manager	043-707 3000	043-707 3700	083 320 5262	srousseau@amatolawater.co.za
Thabo Makaluza	Amatola Water		043-707 3700	043-707 3701		tmakaluza@amatolawater.co.za
Stephen Nash	ADM	Dep. Dir. Operation & Maintenance	043-703 5854	043-743 5151	082 443 2739	stephenn@amatole-dm.co.za
F. Ballim	Water Resources		033-342 5240	033-342 5240		faeza@waterresource.co.za
	Border Kei Chamber of Business		043-743 8438			
Stephen Mallory	Water Resources			012-365 2121	083 415 7223	Stephen@waterresources.co.za
Wayne Ketteringham	UWP Consulting	Support Team : Project Leader	043-721 0186	043-721 0288	082 774 9898	waynek@uwp.co.za
Wayne Selkirk	(UWP) PCT	Support Team : Water Quality / Environment	043-740 4735	043-740 2238	083 580 2766	pctoffice@mweb.co.za
Larry Field	(UWP) Umhlaba	Support Team : Community/Spatial Planning	043-726 5408	043-721 2957	083 701 7132	larry@ikdev.co.za
Edwin Lillie	(UWP) Hydrosol	Support Team : Hydrology	012-336 8887	086 671 6952	082 323 9443	edwin.lillie@wol.co.za
Michael Thompson	UWP Consulting	Support Team :	043-721 0186	043-721 0288	082 614 0798	michaelt@uwp.co.za
Natasha Ewing	UWP Consulting	Support Team : Secretary	043-721 0186	043-721 0288	082 400 8407	natasha.e@uwp.co.za