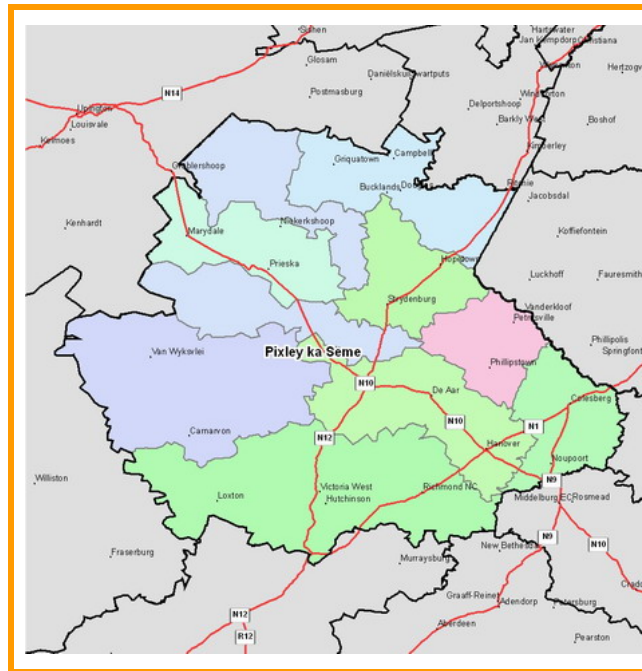


PIXLEY KA SEME DISTRICT MUNICIPALITY



SUMMARY OF THE INTEGRATED WASTE MANAGEMENT PLANS FOR THE PIXLEY KA SEME DISTRICT MUNICIPALITY

October 2007



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INTRODUCTION

The Pixley Ka Seme District Municipality appointed KV3 Engineers to assist with the compilation of an Integrated Waste Management Plans (IWMP) for the Waste Management Division of the various municipalities under its jurisdiction. The municipalities that fall under the Pixley Ka Seme District Municipality are Renosterberg Municipality; Emthanjeni Municipality; Kareeberg municipality; Siyancuma municipality; Siyathemba municipality; Thembelihle municipality; Ubuntu Municipality and Umsobomvu municipality. As a requirement of the National Waste Management Strategy (NWMS) and the IDP Process all Municipalities are faced with the obligation to compile such a plan by end 2004 but at present many municipalities are still in the process of compiling an IWMP.

The compilation of this IWMP was be done in line with the Draft Starter Document for Integrated Waste Management Planning in South Africa made available by DEAT. The draft process of compiling the IWMP consisted of two phases. The Status Quo for Phase 1 consisted of an assessment of the current status of waste collection systems and existing disposal sites, service delivery capacity and a needs analysis for each of these aspects.

The second phase comprised the compilation of the IWMP's. The Objectives and Goals identified was included in this phase, with alternatives for obtaining these being considered and evaluated on a high level thereafter. Based on the preferred options selected for implementation a programme was developed and cost estimates compiled to facilitate inclusion of the plan into the IDP.

The following is a summary of the IWMP's and cost estimates of the disposal infrastructure development for each municipality.

1. SUMMARY RENOSTERBERG

1.1. DISPOSAL INFRASTRUCTURE

The Renosterberg Municipality has three disposal sites to manage namely the Philipstown, Petrusville and Vanderkloof sites. The landfill sites are not authorised in terms of Section 20 of the Environment Conservation Amendment Act and authorisation applications (which include an EIA for each site) for the continued operation (in the case of Philipstown and Vanderkloof sites) and for closure (in the case of the existing Petrusville landfill) should be submitted to DEAT. The existing Petrusville landfill is located close to residential houses and has to be properly closed and rehabilitated once a new replacement site has been identified, authorised and constructed. The existing Petrusville landfill should be operated in the mean time with a view to closure in accordance with the Minimum Requirements for Waste Disposal by Landfill. The Philipstown and Vanderkloof disposal site should be upgraded (guard house with ablution at the entrance and fencing around the sites) and the operation at the sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill and in accordance with the Operational Plan (which will have to be submitted for each site as part of the Authorisation Application report for the sites). The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

1.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. Some of the waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

1.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Renosterberg Municipality at the current moment has no personnel at the landfill sites. Landfill managers/operators (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. Additional general workers for refuse collection may be required to service the unserved areas e.g. new developments. It is also essential that the municipal workers are properly trained for their specific tasks.

1.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

1.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

1.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

1.7. WASTE MINIMISATION

There are currently no formal Municipal driven waste minimisation activities taking place in the Renosterberg Municipality. This can also be attributed to the lack of available markets for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates

Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Disposal Infrastructure Development	Authorise the existing Petrusville disposal site for closure and the Philipstown and Vanderkloof disposal sites for continued operation.	Compile authorisation applications (including EIA) for existing Petrusville disposal site (for closure) and the Philipstown and Vanderkloof disposal sites (for continued operation).		Follow up on authorisation status				
		R 750 000 (R250 000 per site)		No cost assigned, to be conducted by Municipality/consultant				
	Identify, authorise and establish new disposal site for Petrusville.	Apply for authorisation (including EIA) for the establishment of a new disposal site for Petrusville.		Follow up on authorisation status				
		R 280 000		No cost assigned, to be conducted by Municipality/consultant				Audit Management of new landfill site

Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
<p>Disposal Infrastructure Development</p>	<p>Close and rehabilitate existing Petrusville landfill.</p>	<p>Operate the Petrusville site with a view to closure.</p>	<p>Close and rehabilitate the existing Petrusville landfill in accordance with the Minimum Requirements for Closure of a Landfill (once new replacement site has been authorised and constructed)</p>	<p>Maintain closed Petrusville landfill site</p>				
		<p>No cost assigned, to be conducted by Municipality/</p>	<p>R360 000</p>	<p>No cost assigned, to be conducted by Municipality</p>				
	<p>Upgrade and Improve management of Philipstown and Vanderkloof Disposal Sites, as well as the existing Petrusville site until closure.</p>	<p>Construct guard house and ablution facility at the Philipstown and Vanderkloof Landfill Sites. Construct proper fencing around the Vanderkloof landfill site. Upgrade fencing at Philipstown landfill site.</p>	<p>Secure existing Petrusville landfill once closed to prevent further waste disposal on the site.</p>	<p>Audit Management of Landfill Sites (twice yearly audit) (8% CPI Increase)</p>				
		<p>R 230 000</p>	<p>R 50 000</p>	<p>R 50 000</p>	<p>R 54 000</p>	<p>R 58 320</p>	<p>R 62 985</p>	<p>R 68 024</p>

2. SUMMARY KAREEBERG

2.1. DISPOSAL INFRASTRUCTURE

The Kareeberg Municipality has three disposal sites to manage namely the Vosburg site, the Carnarvon site and the Vanwyksvlei site. The Carnarvon site is permitted by DWAF and the Municipality needs to conform to the permit conditions for the operation of the site. The Vanwyksvlei- and Vosburg landfill sites are in the process of being authorised for continued operation. The authorisation process for these two sites should be completed according to the scheduled programme of this project. The status of authorisation should be followed up on a regular basis by the Municipality. The Vanwyksvlei, Carnarvon and Vosburg disposal sites should be upgraded and the operations at these sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill and/or the permit conditions for the sites (once authorisations have been issued). The sites should be operated in accordance with the Operational Plans (which were submitted as part of the Authorisation applications) for the three sites to ensure that the operations at these sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

2.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently has sufficient equipment for the delivery of a refuse removal service. There is however the needs to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

2.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Kareeberg Municipality at the current moment has no personnel at the landfill sites. Landfill managers (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. It is also essential that the municipal workers are properly trained for their specific tasks.

2.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

2.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

2.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

2.7. WASTE MINIMISATION

The Kareeberg Municipality at the moment does not have any formal recycling activities. This can also be attributed to the lack of available market for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates

Focus Area	Recommendation	Actions							
		2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2012/2013	
Disposal Infrastructure Development	Finalise Authorisation Application process for Vosburg and Vanwyksvlei Landfill Sites for continued Operation. Regular follow up on status of authorisation applications for these sites	Regular follow up on status of authorisation applications							
		No Costs Assigned. To be Conducted by the Municipality							
	Upgrade and Improve Management of Carnarvon, Vosburg and Vanwyksvlei Landfill Sites	Construct guard house and ablution facilities at the landfill sites	Audit Management of Landfill Sites (twice yearly audit) (8% CPI Increase)						
		R 40 000							
		Upgrade fencing at landfill sites							
		R 200 000							

3. SUMMARY SIYANTHEMBA

3.1. DISPOSAL INFRASTRUCTURE

The Siyathemba Municipality has three disposal sites to manage namely the Niekerkshoop, Prieska and Marydale sites. The Prieska site is permitted by DWAF and the Municipality needs to conform to the permit conditions for the operation of the site. The Marydale and Niekerkshoop landfill sites are not authorised in terms of Section 20 of the Environment Conservation Amendment Act and authorisation applications (which include an EIA) for the continued operation of these sites should be submitted to DEAT. The Prieska, Marydale and Niekerkshoop disposal sites should be upgraded and the operations at these sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill and/or the permit conditions for the sites (once authorisations have been issued to all the sites). The sites should be operated in accordance with the Operational Plans (which will have to be submitted as part of the Authorisation Application reports in the case of Marydale and Niekerkshoop). Since Prieska landfill is authorised by DWAF, the site should be operated in accordance with its permit conditions and the approved Operations Report. The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

3.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. The waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

3.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Siyathemba Municipality at the current moment has limited or no personnel at the landfill sites. Landfill managers/operators (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. It is also essential that the municipal workers are properly trained for their specific tasks.

3.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

3.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

3.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

3.7. WASTE MINIMISATION

The Siyathemba Municipality at the moment does not have any formal recycling activities. This can also be attributed to the lack of available market for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates

Focus Area	Recommendation	Actions							
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	
Disposal Infrastructure Development	Compile authorisation application (including EIA) for Niekerkshoop and Marydale, to be submitted to DEAT	Apply for authorisation for continued operation of the Niekerkshoop and Marydale landfill sites, including EIA	Follow up on authorisation status						
		R 500 000 (R250 000 per site)	No cost assigned, to be conducted by Municipality/consultant						
	Upgrade and Improve Management of Prieska, Niekerkshoop and Marydale Landfill Sites	Construct guard house and ablution facilities at the landfill sites			Audit Management of Landfill Sites (twice yearly audit) (8% CPI Increase)				
		R 60 000	R 60 000						
		Upgrade fencing at the Niekerkshoop Landfill Site and construct fencing at Prieska and Marydale landfill sites							
		R 172 500	R 172 500	R 50 000	R 54 000	R 58 320	R 62 985	R 68 024	

4. SUMMARY EMTHANJENI

4.1. DISPOSAL INFRASTRUCTURE

The Emthanjeni Municipality has three disposal sites to manage namely the De Aar, Hanover and Britstown sites. The landfill sites are not authorised in terms of Section 20 of the Environment Conservation Amendment Act, 2003. The De Aar landfill is however in the final stages of being authorised. Authorisation applications for the continued operation of the Britstown and Hanover landfill sites (which include an EIA for each site) should be compiled and submitted to DEAT. The existing damaged transfer station in the Britstown Township should be cleared and a new communal transfer station be authorised and established at a more suitable location in the township. The De Aar, Britstown and Hanover disposal sites should be upgraded (guard house with ablution at the entrance of each site and fencing around the Hanover and Britstown sites) and the operation at the sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill. The Britstown and Hanover landfills should be operated according to an Operational Plan (which will have to be compiled and submitted for each site as part of the Authorisation Application report for the sites). An Operational Plan for the De Aar landfill has been compiled and submitted to DEAT and should be implemented during the continued operation and development of the site. The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

4.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. Some of the waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

4.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Emthanjeni Municipality at the current moment has limited or no personnel at the landfill sites. The proper management of the landfill sites will necessitate that the Municipality has personnel at the sites. Due to the small size of the Hanover and Britstown disposal sites, the Municipality can appoint at least 1 person per disposal site, which will have to guard the gate (entrance control),

supervise/operate the site and pick up wind-blown litter when necessary. The De Aar landfill is accepting more waste than the other landfills in the Municipal Area and more staff should be present on the site. The site should at least be manned by a site supervisor/operator, a gate guard to control access and record waste volumes entering the site and a litter picker who can pick up wind-blown litter.

Additional general workers for refuse collection may be required to service the unserved areas e.g. new developments. It is also essential that the municipal workers are properly trained for their specific tasks.

4.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

4.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

4.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

4.7. WASTE MINIMISATION

There is currently a recycling centre in De Aar where residents can take their glass, paper and plastic. The centre also does scrap metal recycling. The municipality are not directly involved with this centre. Informal recycling is also taking place at the De Aar landfill site.

The Municipality is currently not offering any recycling incentives to private people or businesses.

This can also be attributed to the lack of available markets for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates

Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Disposal Infrastructure Development	Authorise the Hanover and Britstown disposal sites for continued operation. Follow up and complete authorisation process for the De Aar landfill.	Compile authorisation applications (including EIA) for Britstown and Hanover disposal sites.		Follow up on authorisation status				
		R 500 000 (R250 000 per site)		No cost assigned, to be conducted by Municipality				
		Complete authorisation process for the De Aar landfill and continuously liaise with DEAT on status of issuing of authorisation for the site	Follow up on authorisation status					
		No cost assigned, to be conducted by Municipality/ consultant						
	Authorise and establish new communal transfer station in Britstown township. Clear existing damaged transfer station.	Compile authorisation report (including EIA) for the identification and establishment of a new communal transfer station for Britstown township and submit to DEAT. Clear existing damaged transfer station at Britstown township.		Follow up on authorisation status		Audit Management of new communal transfer station in Britstown township		
		R 225 000		No cost assigned, to be conducted by Municipality				

Focus Area	Recommendation	Actions							
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	
<p style="text-align: center;">Disposal Infrastructure Development</p>	<p style="text-align: center;">Upgrade and Improve management of De Aar, Hanover and Britstown Disposal Sites.</p>	<p>Construct guard house and ablution facilities at the De Aar, Britstown and Hanover Landfill Sites. Construct proper fencing around the Britstown and Hanover landfill site. Operate landfills in accordance with Minimum Requirements for Waste Disposal by Landfill</p>	<p>Audit Management of Landfill Sites (twice yearly audit)</p> <p>(8% CPI Increase)</p>						
		<p>R 344 000</p>	<p>R 90 000</p>	<p>R 97 200</p>	<p>R 104 976</p>	<p>R 113 375</p>	<p>R 122 445</p>	<p>R 132 240</p>	

5. SUMMARY SIYANCUMA

5.1. DISPOSAL INFRASTRUCTURE

The Siyancuma Municipality has three disposal sites to manage namely the Douglas, Griekwastad and Campbell sites. The sites are not authorised in terms of Section 20 of the Environment Conservation Amendment Act and authorisation applications (which include an EIA) for the continued operation of these sites should be submitted to DEAT. The Municipality has identified the need for the establishment of a communal disposal site at Schmidtsdrift. An application for authorisation should be compiled and submitted to DEAT. Once an authorisation for the site has been issued, the Municipality can start with the construction works at the site before disposal may start. The Douglas, Griekwastad and Campbell disposal sites should be upgraded (entrance control with guard house and ablution facility) and the operations at these sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill. The sites should be operated in accordance with the Operational Plans (which will have to be submitted as part of the Authorisation Application reports). The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

5.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. The waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles, as well as to purchase additional vehicles should the need arise with new developments in the area. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

5.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Siyancuma Municipality at the current moment has limited or no personnel at the landfill sites. Landfill managers/operators (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. It is also essential that the municipal workers are properly trained for their specific tasks.

5.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

5.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

5.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

5.7. WASTE MINIMISATION

The Siyancuma Municipality at the moment does not have any formal recycling activities. This can also be attributed to the lack of available market for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates									
Focus Area	Recommendation	Actions							
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	
Disposal Infrastructure Development	Compile authorisation application (including EIA) for Douglas, Campbell and Griekwastad, to be submitted to DEAT	Apply for authorisation for continued operation of the Douglas, Campbell and Griekwastad landfill sites, including EIA	Follow up on authorisation status						
		R 750 000 (R250 000 per site)	No cost assigned, to be conducted by Municipality/consultant						
	Upgrade and Improve Management of Douglas, Campbell and Griekwastad Landfill Sites	Construct guard house and ablution facilities at the landfill sites	Audit Management of Landfill Sites (twice yearly audit)						
		R 60 000	R 60 000	(8% CPI Increase)					
		Upgrade fencing at Douglas disposal site							
		R 80 000	R 80 000	R 50 000	R 54 000	R 58 320	R 62 985	R 68 024	
	Identify, authorise and establish a communal disposal site at Schmidtsdrift	Apply for authorisation for the establishment of a communal disposal site in Schmidtsdrift, including EIA	Construction of the Schmidtsdrift landfill site	Operate & Audit Management of Landfill Site (twice yearly audit)					
		R250 000	R 700 000	R 20 000	R 21 600	R 23 328	R 25 194	R 27 210	

6. SUMMARY THEMBELHILE

6.1. DISPOSAL INFRASTRUCTURE

The Thembelihle Municipality has two disposal sites to manage namely the Hopetown and Strydenburg sites. The landfill sites are not authorised in terms of Section 20 of the Environment Conservation Amendment Act and authorisation applications (which include an EIA for each site) for the continued operation (in the case of Strydenburg site) and for closure (in the case of the existing Hopetown landfill) should be submitted to DEAT. Funds have been allocated for the establishment of a new disposal site for Hopetown. The existing Hopetown landfill has to be properly closed and rehabilitated once the new replacement site has been authorised and constructed. The existing Hopetown landfill should be operated in the mean time with a view to closure in accordance with the Minimum Requirements for Waste Disposal by Landfill. The new Hopetown disposal site is in the process of being authorised (EIA completed) and the status of the authorisation should be followed up. The Strydenburg disposal site should be upgraded (guard house with ablution at the entrance and fencing around the site) and the operation at the site be improved to comply with the Minimum Requirements for Waste Disposal by Landfill and in accordance with the Operational Plan (which will have to be submitted as part of the Authorisation Application report). The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

6.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. Some of the waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

6.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Thembelihle Municipality at the current moment has limited or no personnel at the landfill sites. Landfill managers/operators (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. Additional general workers for refuse collection may be

required to service the unserved areas e.g. new developments. It is also essential that the municipal workers are properly trained for their specific tasks.

6.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

6.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

6.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

6.7. WASTE MINIMISATION

The Thembelihle Municipality at the moment does have a formal initiative to recycle cans and metals in town. No other materials are however recycled. This can also be attributed to the lack of available markets for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates								
Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Disposal Infrastructure Development	Authorise the existing Hopetown disposal site for closure and the Strydenburg disposal site for continued operation.	Apply for authorisation for continued operation of the Strydenburg landfill site, and apply for authorisation for closure of the existing Hopetown landfill site, including EIA's with each authorisation		Follow up on authorisation status				
		R 500 000 (R250 000 per site)		No cost assigned, to be conducted by Municipality/consultant				
	Upgrade and Improve management of Strydenburg Disposal Site, as well as the existing Hopetown site until closure.	Construct guard house and ablation facility at the Strydenburg Landfill Site	Secure existing Hopetown landfill to prevent further disposal after closure	Audit Management of Landfill Sites (twice yearly audit) (8% CPI Increase)				
		Construct proper fencing around the Strydenburg landfill site.						
		R 160 000	R 50 000	R 50 000	R 54 000	R 58 320	R 62 985	R 68 024

Focus Area	Recommendation	Actions					
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
<p>Disposal Infrastructure Development</p>	<p>Close and rehabilitate existing Hopetown landfill. Follow up on status of authorisation for replacement new disposal site for Hopetown.</p>	<p>Liaise with DEAT on status of authorisation of new disposal site in Hopetown.</p>	<p>Close and rehabilitate the existing Hopetown landfill in accordance with the Minimum Requirements for Closure of a Landfill (once new replacement site has been authorised and constructed)</p>	<p>Maintain closed Hopetown landfill site</p>			
		<p>No Costs Assigned. To be conducted by Municipality / Consultant</p>	<p>R 600 000</p>				

7. SUMMARY UBUNTU

7.1. DISPOSAL INFRASTRUCTURE

The Ubuntu Municipality has three disposal sites to manage namely the Victoria West, Loxton and Richmond sites. The landfill sites are not authorised in terms of Section 20 of the Environment Conservation Amendment Act and authorisation applications (which include an EIA for each site) for the continued operation (in the case of Loxton and Richmond sites) and for closure (in the case of the existing Victoria West landfill) should be submitted to DEAT. The existing Victoria West landfill has reached the end of its lifetime and should be properly closed and rehabilitated once the new replacement site has been authorised and constructed. The existing Victoria West landfill should be operated in the mean time with a view to closure in accordance with the Minimum Requirements for Waste Disposal by Landfill. The new Victoria West disposal site is in the process of being authorised and the status of the authorisation should be followed up. The Loxton and Richmond disposal sites should be upgraded (guard house with ablution at the entrance and fencing around the site) and the operations at these sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill. The Loxton and Richmond sites should be operated in accordance with the Operational Plans (which will have to be submitted as part of the Authorisation Application reports). The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

7.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. The waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

7.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Ubuntu Municipality at the current moment has no personnel at the landfill sites. Landfill managers/operators (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. It is also essential that the municipal workers are properly trained for their specific tasks.

7.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

7.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

7.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

7.7. WASTE MINIMISATION

The Ubuntu Municipality at the moment does not have any formal recycling activities. This can also be attributed to the lack of available market for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates

Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Disposal Infrastructure Development	Authorise the existing Victoria-West disposal site for closure and the Loxton and Richmond disposal sites for continued operation.	Apply for authorisation for continued operation of the Loxton and Richmond landfill sites, and apply for authorisation for closure of the Victoria West landfill site, including EIA's with each authorisation		Follow up on authorisation status				
		R 750 000 (R250 000 per site)		No cost assigned, to be conducted by Municipality/consultant				
	Upgrade and Improve management of Loxton and Richmond Disposal Sites, as well as the existing Colesberg site until closure	Construct guard house and ablution facilities at the Loxton and Richmond landfill sites		Audit Management of Landfill Sites (twice yearly audit) (8% CPI Increase)				
		R 40 000	R 40 000					
		Construct proper fencing around the Loxton and Richmond landfill sites. Secure Victoria West site once closed to prevent the further disposal of waste on the site						
		R 150 500	R 172 500	R 50 000	R 54 000	R 58 320	R 62 985	R 68 024

Focus Area	Recommendation	Actions					
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
<p>Disposal Infrastructure Development</p>	<p>Close and rehabilitate existing Victoria West landfill. Follow up on status of authorisation for replacement new disposal site for Victoria West.</p>	<p>Liaise with DEAT on status of authorisation of new disposal site in Victoria West.</p>	<p>Close and rehabilitate the existing Victoria West landfill in accordance with the Minimum Requirements for Closure of a Landfill (once new replacement site has been authorised and constructed</p>	<p>Maintain closed Victoria West landfill site</p>			
		<p>No Costs Assigned. To be conducted by Municipality / Consultant</p>	<p>R 500 000</p>				

8. SUMMARY UMSOMBONVU

8.1. DISPOSAL INFRASTRUCTURE

The Umsobomvu Municipality has three disposal sites to manage namely the Colesberg, Norvalspont and Noupoot sites. The Colesberg and Noupoot disposal sites are permitted by DWAF and the Municipality needs to conform to the permit conditions for the operation of these sites. The Norvalspont landfill site is not authorised in terms of Section 20 of the Environment Conservation Amendment Act and an authorisation application (which include an EIA) for the continued operation of the site should be submitted to DEAT. The Colesberg, Norvalspont and Noupoot disposal sites should be upgraded and the operations at these sites be improved to comply with the Minimum Requirements for Waste Disposal by Landfill and/or the permit conditions for the sites. The Norvalspont site should be operated in accordance with the Operational Plan (which will have to be submitted as part of the Authorisation Application report). Since the Colesberg and Noupoot landfills are authorised by DWAF, the sites should be operated in accordance with their permit conditions and the approved Operational Reports. The Municipality should ensure that the operations at the disposal sites are done in accordance with sound waste disposal principles and that the sites be effectively managed in the future.

8.2. WASTE COLLECTION INFRASTRUCTURE

The Municipality currently does not have sufficient equipment for the delivery of an effective refuse removal service. Some of the waste collection vehicles are old and in a poor condition. There is a need to plan for the future replacement of these vehicles. The compilation of a replacement plan as well as the implementation of a savings plan will assist the Municipality to plan ahead and budget for the vehicles.

8.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

The Umsobomvu Municipality at the current moment has limited or no personnel at the landfill sites. Landfill managers/operators (one person at each disposal site) need to be appointed to ensure the proper management of the landfill sites. It is also essential that the municipal workers are properly trained for their specific tasks.

8.4. FINANCIAL RESOURCES

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present.

8.5. DISSEMINATION OF INFORMATION / COMMUNICATION

A Waste Information System needs to be developed to ensure effective waste management. This information will also enable the Municipality to contribute to the quarterly waste management workshops with the other Municipalities in the District Municipality. The aim of these workshops will be to build capacity within them as well as guide Municipalities with less experience. The communities within the municipal area should also be made aware of proper waste management techniques and the service the Municipality renders.

8.6. MANAGEMENT OF ILLEGAL ACTIVITIES

The Municipality has a problem with illegal dumping within the municipal area. To improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area. The Municipality can also deploy skips at strategic locations across the towns to minimise illegal dumping.

8.7. WASTE MINIMISATION

The Umsobomvu Municipality at the moment does not have any formal recycling activities. This can also be attributed to the lack of available market for the recycled materials. The distribution of recycle containers throughout town will further encourage recycling activities. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

Cost Estimates								
Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Disposal Infrastructure Development	Compile authorisation application (including EIA) for Norvalspont landfill, to be submitted to DEAT	Apply for authorisation for continued operation of the Norvalspont landfill site, including EIA	Follow up on authorisation status					
		R 250 000	No cost assigned, to be conducted by Municipality/consultant					
	Upgrade and Improve Management of Prieska, Niekerkshoop and Marydale Landfill Sites	Construct guard house and ablution facilities at the landfill sites	Audit Management of Landfill Sites (twice yearly audit)					
		R 60 000	R 60 000	(8% CPI Increase)				
		Construct proper fencing around the Colesberg, Norvalspont and Noupoot landfill sites						
		R 172 500	R 172 500	R 50 000	R 54 000	R 58 320	R 62 985	R 68 024

9. SUMMARY DISTRICT MANAGEMENT AREA

9.1. DISPOSAL INFRASTRUCTURE DEVELOPMENT

This area relates to the development, upgrading and legalisation of disposal infrastructure. This includes the identification of new infrastructure required, the permitting of existing unauthorised facilities, and the upgrading of the current infrastructure as well as the improvement of management practices at the various locations.

9.2. WASTE COLLECTION INFRASTRUCTURE

The shortcomings in the available collection infrastructure will be identified. This will involve possible fleet shortages, receptacle placement and route planning.

9.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCES

This area involves the identification of human resource shortcomings and alteration to employee structures.

9.4. FINANCIAL RESOURCES

This area relates to existing and required financial structures and strategies.

9.5. DISSEMINATION OF INFORMATION/COMMUNICATION

This area covers the need for effective record keeping and the development of a Waste Information System, the sharing of available information as well as co-operation of the various stakeholders within the area.

9.6. MANAGEMENT OF ILLEGAL ACTIVITIES

This focus area relates to illegal dumping activities within the DMA. This involves identification of possible illegal dumping hot spots, development of clean up and anti dumping campaigns, possible revision of bylaws as well as revision of collection strategies.

9.7. WASTE MINIMISATION

This area involves the identification of specific waste minimisation strategies, whether it is separation and collection at the source, privatisation of recycling activities, development of collection points throughout the area as well as public awareness/education strategies.

It is important to structure Goals and Objectives in accordance with the Government's strategy of waste minimisation. The official hierarchy adopted in the Government Waste Management Strategy is as follows:

10. COST ESTIMATES

The following is a cost estimate for all costs other than disposal infrastructure development. These costs are relatively the same for the budget off each municipality and are per municipality.

Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Waste Collection Infrastructure	Extend service to un-serviced areas.	Assist Farmers with Proper Waste Disposal Techniques	Add new residential development areas as it develops	Add new residential development areas as it develops	Add new residential development areas as it develops	Add new residential development areas as it develops	Add new residential development areas as it develops	Add new residential development areas as it develops
		No Costs Assigned. To be conducted by Municipality	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned
	Extend & Maintain Collection Fleet	Compile Equipment Replacement Plan	Implement Equipment Savings Plan	Replace equipment as Required	Replace equipment as Required Negotiate Maintenance Contract	Replace equipment as Required Negotiate Maintenance Contract	Replace equipment as Required Negotiate Maintenance Contract	Replace equipment as Required Negotiate Maintenance Contract
		R 25 000	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned
		Maintain Current Collection Fleet	Maintain Current Collection Fleet	Maintain Current Collection Fleet	Maintain Current Collection Fleet	Maintain Current Collection Fleet	Maintain Current Collection Fleet	Maintain Current Collection Fleet
		No Costs Assigned. In Current Municipal Budget	No Costs Assigned. In Current Municipal Budget	No Costs Assigned. In Current Municipal Budget	No Costs Assigned. In Current Municipal Budget	No Costs Assigned. In Current Municipal Budget	No Costs Assigned. In Current Municipal Budget	No Costs Assigned. In Current Municipal Budget
	Optimise Collection Route	Optimise Collection Route		Include new Areas into Collection Route				
		R 12 000	R 12 000	No Costs Assigned. To be Conducted by the Municipality				

Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
	Standardise Refuse Receptacles	Continue with current refuse collection system, but continuously review the system for possible phasing in of 240 l wheelie bins should it prove to be feasible						
		No costs Assigned. To be conducted by the Municipality						
Institutional Capacity & Human Resources	Employ Additional Staff to manage landfill sites	Appoint a site supervisor/operator at each disposal site	Employ Staff as Vacancies Develop					
		No Costs Assigned. To be Negotiated by the Municipality	No Costs Assigned. To be Conducted by the Municipality					
	Locally Train Low Level Staff Specialised Training for Specialised Posts	Train New Staff (High First Year Costs Followed by Updating Training if Required)						
R 50 000		R 10 000	R 10 800	R 11 664	R 12 597	R 13 604	R 14 693	
Ensure Training of Landfill Managers								
		No Costs Assigned. To be Conducted by the Municipality						
Financial Resources	Implement Standardised Tariff Structure	Evaluate Level of Service Delivery	Update Tariffs as Service Levels Improve					
		Develop Standardised Tariffs for Specific Levels of Service.	Increase Tariffs to Combat Inflation					
		No Costs Assigned. To be Conducted by the Municipality	No Costs Assigned. To be Conducted by the Municipality					

**PIXLEY KA SEME DISTRICT MUNICIPALITY:
SUMMARY OF THE INTEGRATED WASTE MANAGEMENT PLANS**



Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
	Implement Pre-paid system	Inform Community regarding Implementation of System	Upgrade System as Required					
		Implement Pre-Paid System						
		R 65 000	R 40 000	No Costs Assigned. To be Conducted by the Municipality				
Dissemination of Information / Communication	Develop WIS	Appoint Consultant to Develop WIS	Maintain and Update WIS as Situation Change in Municipality					
		No Costs Assigned. Generic WIS being designed by DEAT	No Costs Assigned.					
	Attend Workshops	Attend Quarterly Waste Management Workshops	Attend Quarterly Waste Management Workshops	Attend Quarterly Waste Management Workshops	Attend Quarterly Waste Management Workshops	Attend Quarterly Waste Management Workshops	Attend Quarterly Waste Management Workshops	Attend Quarterly Waste Management Workshops
		No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned	No Costs Assigned
	Build Community Awareness	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers.
		Conduct Road Shows		Conduct Road Shows	Conduct Road Shows	Conduct Road Shows		Conduct Road Shows
		R 35 000	R 12 000	R 38 000	R 14 000	R 40 000	R 16 000	R 42 000
Management of Illegal Activities	Establish Community Watch Programme	Inform Communities of Proposed Program	Establish Community Watch System	Incorporate New Neighbourhoods into the Community Watch System				
			Implement Incentive Schemes					
		R 20 000	R 20 000	R 20 000	No Costs Assigned			

**PIXLEY KA SEME DISTRICT MUNICIPALITY:
SUMMARY OF THE INTEGRATED WASTE MANAGEMENT PLANS**



Focus Area	Recommendation	Actions						
		2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
	Amend By-Laws	Amend By-Laws	Update By-Laws as Required					
		No Costs Assigned	No Costs Assigned					
	Provide Skips Throughout Town	Purchase Skips for Existing Neighbourhoods	Purchase Skips for New Developments as the Need Arise					
		R 6 800 /skip						
Management of Illegal Activities	Provide Recycling Containers Throughout Town	Purchase Recycling Containers Locate Containers at Strategic Places Improve Community Awareness	Add Additional Containers to Service New Development Areas Continual Awareness Program					
		R 60 000	R 40 000	No Costs Assigned				
	Incentive Schemes for In-House Recycling	Develop Discount System for Businesses Implement Discount Strategy	Maintain and Evolve Discount System to Incorporate New Businesses					
		No Costs Assigned. To be Conducted by the Municipality	No Costs Assigned. To be Conducted by the Municipality					

11. RECOMMENDATIONS AND CONCLUSION

Apart from the recommendations in the above sections, the following recommendations are made:

A Waste Information System should be implemented for the whole district. The aim of this information system will be to provide all the necessary detail information pertaining to waste management i.e. permit status of landfills, volumes disposed of, condition of the landfills, number and type of equipment, date of purchase, operating and maintenance cost, replacement date, type of service, number of service points (domestic, commercial and industrial), the number of personnel involved, etc.

Decisions concerning new equipment or services can then be made based on accurate information provided by the above system. Some of the information in this document can serve as a basis for future development of such a Waste Information System. The above is regarded to be of the utmost importance to the district as well as the local municipalities.

This IWMP should be re-evaluated and expanded to a detail operational plan, once suitable information is available from the system as to ensure that future planning is done correctly:

- Service levels should be work shopped with the community to obtain their views and inputs on the proposed upgrading of their service and the cost implications involved.
- Community awareness campaigns should be implemented to educate the communities on responsible waste management i.e. why a landfill is fenced, why you dispose of your waste in waste receptacles, why waste is covered at a landfill, why illegal dumping is costly, etc.
- The municipalities should promote recycling and/or waste minimisation. The recyclers on site should be formalised to ensure that they co-operate with the landfill supervisors.

The above recommendations together with the recommendations in the previous sections should ensure that the short term waste management requirements in the region are met. Once the Waste Information System is implemented, this Plan should be re-evaluated and if need be adjusted. Long term planning can then be done in a more responsible manner. This will ensure that sound waste management is practised in the region.