



water & sanitation

Department.
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

161207 PCWater

BRIEFING THE PORTFOLIO COMMITTEE ON WATER AND SANITATION ON PROGRESS REPORT SINCE THE COMMITTEES SEPTEMBER OVERSIGHT VISIT TO THE NORTH WEST PROVINCE

EXECUTIVE SUMMARY

**Presented by:
Mr Sifiso Mkhize
Acting Director-General**

07 December 2016

Presentation Outline

1. Portfolio Committee of Water and Sanitation (PCWS) Oversight Visit resolutions;
2. Resolution 1: To Address water resources pollution in Madibeng LM;
 - Purpose;
 - Overview of Brits Industrial Area;
 - Overview of the Map Pump Station E;
 - Action Plan and Progress;
 - Recommendations;
 - Way forward
3. Resolution 2: To address water supply intervention in Kgetleng LM;
 - Background;
 - Action Plan and Progress;
 - Recommendations;
 - Way forward
4. Resolution 3: Fostering partnership between mines and municipalities
 - Background;
 - Action Plan and Progress;
 - Recommendations and Way Forward;

PCWS resolutions

20-22 September 2016

1. To address water resources pollution in Madibeng LM
2. To intervene in Kgetlengrivier LM to address water shortages in Swartruggens
3. To establish Water Sector Forum (WSF) for Bojanala DM to foster partnership between municipalities and mines in addressing water challenges.



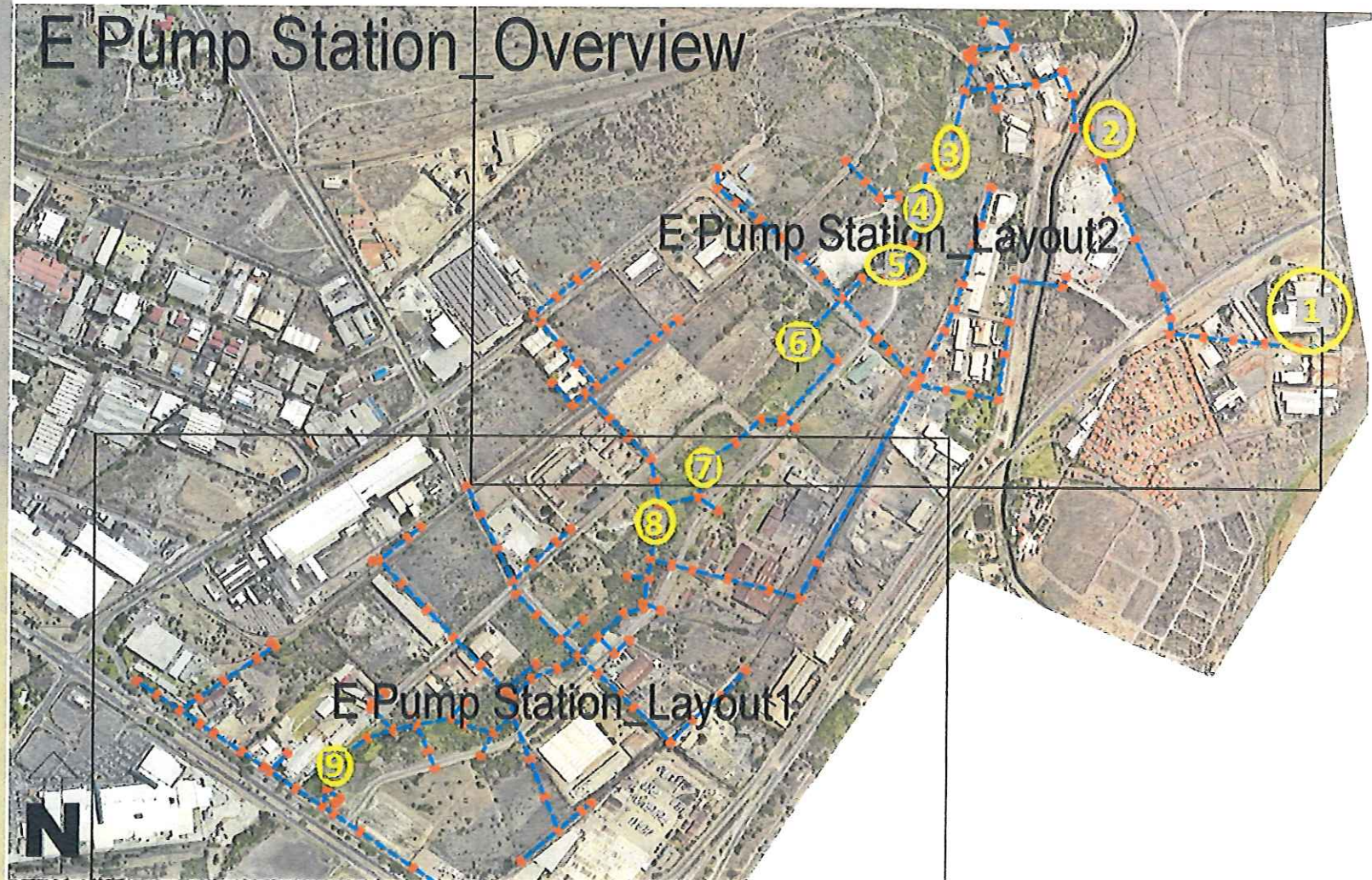
Resolution1.

To address water resources
pollution in Madibeng LM

Purpose

- To give a report back on measures taken
- To present progress with the implementation of the task team Action plan
- Provide challenges and recommendations

Shows an overview of the part of the sewer scheme, with the de kroon spruit running along the sewer line. Effluent flow from Abattoir at No 1-to Pump station E @ no 9



Overview of the Map: E Pump Station

- Location 1: Its the abattoir. Normal flow in the line gravitates from 1 to 9 where it is pumped further.



- Location 2: This area right before the canal has in the past been a major problem area with continuous overflows. Indications at the moment is that it has remained dry for a few weeks



- Location 3: Storm water accumulates a bit higher up with old sludge being suspended and pumped into a nearby manhole at this point.



- Location 4: Remaining wastewater being washed down is currently effectively contained at this location, enabling lower areas to dry out as seen above and polluted water pumped into nearby manhole.



- Location 5: Another containment barrier right before this point has reduced the contaminated flow to lower areas considerably (left vs original right).

Overview of the Map: E Pump Station (Cont...)



Location 6: Dry sediments still lying in the stream. requires bioremediation



Location 7: Dry sediments still lying in the stream. requires bioremediation



Location 8: The existing wetlands aid filtration immensely. The stream size has normalised and vast areas previously filled with sludge are drying out



Location 9: A marked improvement of water quality (right) in the lower reaches of the river is noted with suspended solids drastically reduced from what it was (left). Below is the current overflow of water at this point.



Action plan and Progress

Action Plan

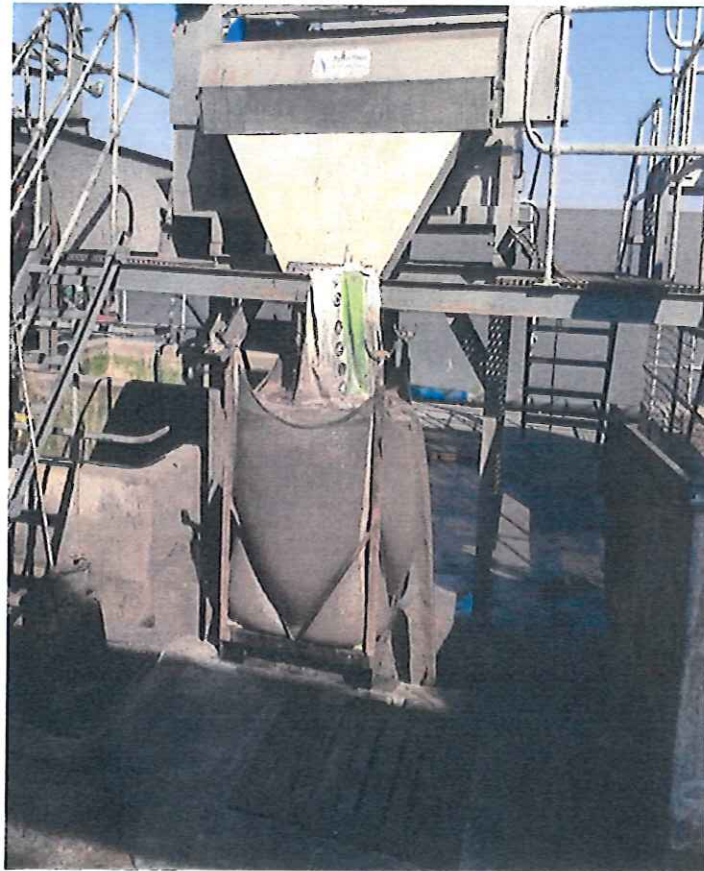
- To establish a task team
- To assess the extent of the pollution and Identification of key contributors to pollution
- Draft an action plan to remediate the pollution and the stream
- Water Quality test for the Industries and the Stream
- Madibeng Action Plan

Progress

- Task team was established and three meetings held (4 & 17 October and 11 November). Members DEA, DWS, BIA and MLM
- A total of 18 industries were visited with letters and pre-directives issued (refer to slide (15 to 19)
- Madibeng LM has crafted and implemented an Action Plan (slide 29 to 40) details the plans and progress report
- Water quality test conducted for some industries and stream. Most industries exceed Madibeng by- laws limits. However stream water quality shows improvement refer to slide (24&25)
- Madibeng Action plan and progress is shown in slide (29-40)-sewer lines cleaned by jetting, manholes replaced and where sewer spilled intercepted and pump back into the sewer line.

Brits Tannery before and After Intervention

Before new Treatment Plant



After new Treatment plant (DAF-Unit)



Brits Tannery effluent before and after

During the visit of PC WS and envisage while treatment plant fully functional



Brits Abattoir

During the visit (01 December 2016) it was observed that still no effluent pre-treatment at the Abattoir to take out most of the solid materials that might be causing blockages of the manholes and blood.

During PC WS Visit 21



During the visit on 01 December



Recommendations

- The Department issued a directive in terms of section 19 of the National Water Act to compel the Brits Abattoir to immediately implement measures to stop the pollution from continuing, as the situation observed during previous site visit was still the same on 2 December 2016. Failure to comply, the Dept. will interdict the industry – compelling compliance.
- They were directed to do so within 14 working days from the date of the Directive
- It was observed during the site visit that solid materials still find its way to municipal sewer line which might cause blockages of the manholes.
- The Brits Tannery to submit the water quality results to DWS within 14 days from the date of commissioning of DAF plant.
- Brits Tannery follow-up inspection to be conducted before on or before 13 December 2016 to confirm if every thing is working as planned and implemented

De Kroon– Spruit During and after the Visit by PC WS

De Kroon Spruit School Bridge
River view during PC WS visit

De Kroon School Bridge on 1
Dec 2016 River View



Comment from Ms and Mr Kruger of De Kroon School-

A visit was also conducted at De Kroon School on 1 December 2016

Mr and Mrs Kruger appreciate the Intervention by PC WS and they want to thank the Chair for PC WS. Mr Kruger Cell No 0825667017

Ms Kruger indicated that the Children are well now and there is no longer that irritating smell

No longer irritating itching on the skins

It was for almost 5 weeks on 1 December from the day of the intervention

They will continue to monitor and inform authorities if there are challenges over December holidays.

All they want is rapid response when there is an emergency

Pictures of Work Done

- Maintenance Process: Pump station Refurbishment



Pictures of Work Done

- **Maintenance Process: End result Sewer Line Cleaning**
- Clean Lines were the result of much effort



Pictures of Work Done

- Clean-up in Process

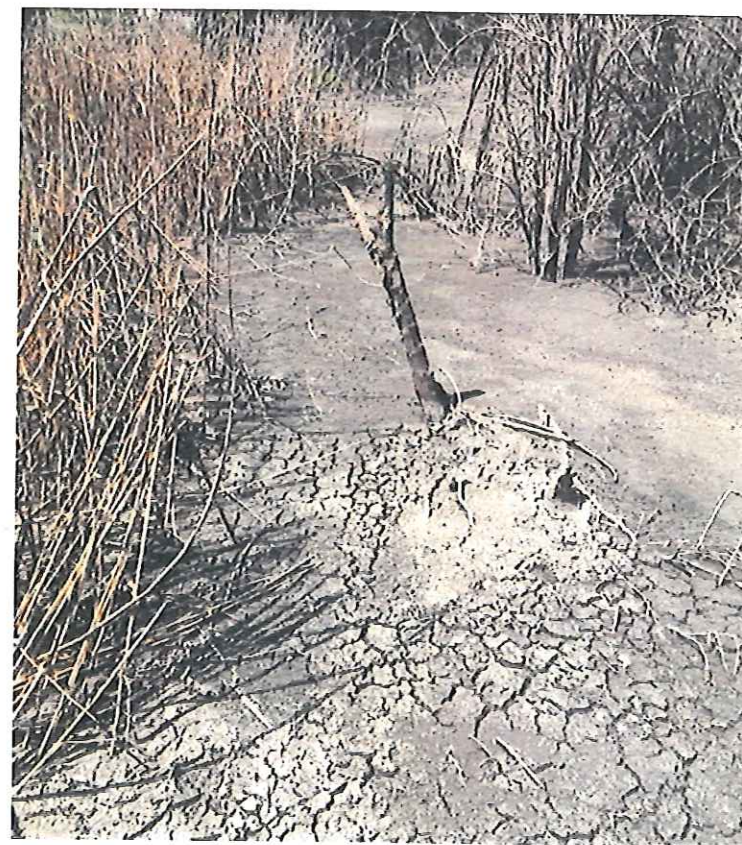


Areas of the stream where bio-remediation is required

Dry Sediments



Dry Sediments



Challenges


- Madibeng LM submitted Industry Management Intervention Plan and adopted by the Task team
 - ✓ The Plan details actions to be taken to address the municipal infrastructure shortcomings- details
 - ✓ **R5 Million to rehabilitate the stream**
 - ✓ **R 9 Million for the industrial outfall sewer – Estimate since the Model indicated design Challenges**
- The Brits Industrial Association initially pledged to address the pollution in the stream- meeting of 4 October 2016 , however failed to put it in writing.
- In their letter they offered to assist with the Technical Expertise and Machinery e.g. TLB under the following conditions:
- Municipality to ensure the functioning of the **water infrastructure** and **have council approved Water services Development Plan and IDP**

Recommendations

- Municipality to finalise the short & medium Term work and ensure fully functionality of the current infrastructure
- Currently has Draft WSDP which is at Public Participation stage and need to be finalised and together with IDP have it approved by Council
- Madibeng to ensure that the O&M plans are finalised and fully funded
- Appoint the required personnel for O&M and Enforcement of the By-laws
- Madibeng to seek funding for the work required. They can approached the BIA and other funding institutions i.e. BIA offered to assist with the Technical Expertise and Machinery e.g. TLB
- The task team work will still continue. The Next meeting is scheduled for 13 December and late January 2017

Way Forward

- Madibeng LM to seek additional funding for the remaining work i.e. Remediation and an Outfall Sewer line
- The Task team continue and oversee implementation of the remedial work



Resolution 2.

To address water supply
intervention in Kgetleng LM

Purpose of the Exercise

- To ensure that we restore water supply in Swartruggens and Borelelo.
- To Augment the Swartruggens dam with groundwater supply.
- To provide the financial viability, in implementation of reliable water supply in combination of ground and surface water.
- Increase a dam capacity, by removing the sediment in a Swartruggens dam.
- To provide the technical support through Magalies Water, to implement bulk water and sanitation projects.

Dolomite location in



Action Plan and Progress

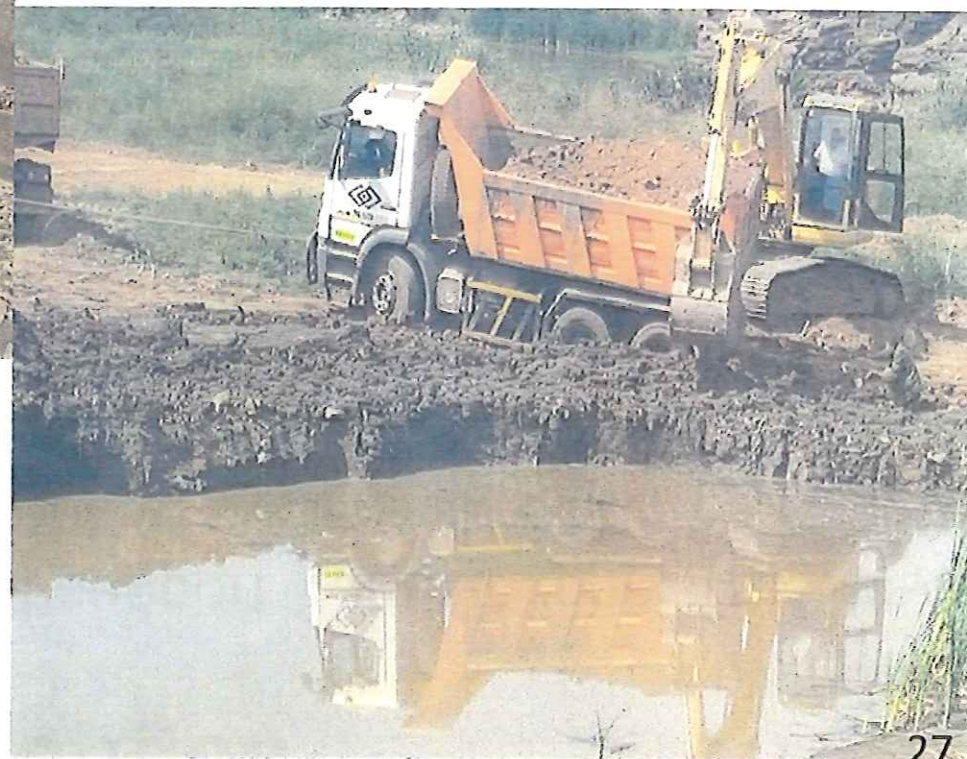
Action Plan

- To ensure that we restore water supply in Swartruggens and Borelelo.
- Increase the dam capacity, by removing the sediment in a Swartruggens dam.
- To provide the technical support through Magalies water, to implement bulk water and sanitation projects.

Progress

- The two boreholes has been drilled in Rismcol farm through municipal infrastructure grant (MWIG).
- 6 X trucks provided in the interim, with a capacity of 18 000 LT to supply Borelelo, Swartruggens, Koster and Mazista.
- 7 X 16 000LT and 1 X 26 000LT water tankers provided to Borelelo .
- Removal of sediments commenced in October 2016. The intension is to increase the storage capacity of the Dam by taking out sediments
- Assessment on ground water has been completed ,with a positive yield to both Swartruggens and Borelelo township (Slide 50 to 55). Report submitted to Treasure to solicit funding
- Magalies water is building the new Koster WWTW as IA

Removal of Sediment at the Swartruggens Dam



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Challenges

- Insufficient financial support from National Treasury. (NT) referred the Dept. to section 20.6 D.
- Lack of counter funding from the municipality
- Lack of water conservation and demand management plans.
- Poor operation and maintenance plans
- Old water and sanitation infrastructure
- No budget for Operations & Maintenance (O&M) within the municipality
- Possible high cost on O&M on pump stations and pipeline .

Recommendation

- To utilize the MIG funding as a bridging finance to implement emergency water supply projects.
- Implement the By laws and water master plans.
- Finalise the Pilanesburg phase 3 which will relieve water backlog in Moses Kotane, Rustenburg and Kgetlengrivier LM.
- Develop a strategy re-use and recycling of effluent.

Way forward

- A full feasibility study for the short and medium term solution for Swartrugens has been conducted and prioritised.

• The following alternative water sources have been identified to augment the supply into the greater Swartrugens. These are:

1. Importing raw water from the Lindleyspoort Dam;
2. Increasing the storage of the Swartrugens dam to increase the safe yield;
3. Importing water from the dolomite areas some 40 km to the south of town;
4. Re-using treated sewage effluent;
5. Removing of the sediment in a dam to bring the basin to its full capacity (under removal through Magalies Water); and
6. There are other dams around Rustenburg area which might provide relief to supply both Koster and Swartrugens. These are the Bospoort, Vaalkop and Olifantsnek dams.

- MIG Funding to be sourced to fast track the project



Resolution 3.

**Fostering partnership between mines
and municipalities**

Establishment of Bojanala DM Water Sector Forum

- The Purpose of the Bojanala Forum is to encourage and foster partnership between the Mining houses and the 5 Local Municipalities within the Bojanala District area of jurisdiction.
- The Bojanala Platinum District Municipality is a category B Municipality in the NW
- It is located in the north eastern corner of the North West province and is within the Limpopo/NW CMA
- It has a population of 1 456 784 with 409 639 households
- it has about 35 687 households with lack of access to basic water

Action Plan and Progress

Action Plan

- To establish water sector forum
- To identify the water and sanitation needs
- To formulate partnership plan

Progress

- Bojanala forum convened and met on 21 October and 28 November 2016. ToR needs to be finalised
- Municipalities identified their water and sanitation needs and presented to the forum
- The Chamber of mines met with their members and they wrote a letter to the DWS raising amongst others the following:
 - ✓ they want DMR to be brought on Board for this engagement
 - ✓ they need their SLA to be reviewed in line with the DMR requirement to assist municipalities

Recommendations and Way forward

- It is recommended that the Legal Support of the Department be brought on board to facilitate MOU between the Mining Houses and Water Service Authorities over the over-arching framework for partnership and collaboration.
- The SLA be developed on specific projects identified with defined KPI'S and delivery timeframes.
- The Project Steering Committees be established to manage specific projects.
- The mining houses review their SLP's in line with the identified needs and priorities.
- The short, Medium to long term plan on WS interventions be incorporated in the BP's.
- The working Committees be established to address the needs for specific focal areas.
- The DMR to also play an integral role in directing the resources in line with the SLP's.



THANK YOU