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# GGH3708 PORTFOLIO

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Wendy de Klerk

65757807



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*I, Wendy de Klerk, hereby swear that the following examination is answered by me alone and that I had no assistance in answering the questions below. I also testify that I know what is meant by plagiarism and that I have cited and referenced my work.*

Wendy de Klerk

14 April 2022

Signed: *Wde Klerk*

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APRIL 14, 2022

WENDY DE KLERK

65757807

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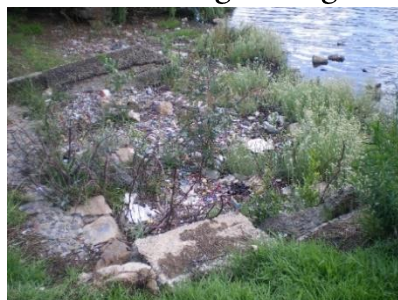




## Introduction to Awareness Event

Although I had done my Assignment 4 based on the pollution and litter at the Riebeeck Lake of Randfontein and was therefore going to host a clean-up event for the lake, the Municipality has since done a clean-up, which has been quite effective and there is currently little left to do there (De Klerk 2018). The amount of litter is minimal, and the pollution of the water is also better due to the recent rains. Parts of the area have reverted to natural wetland bog/vlei conditions and polluted water is now flowing through the reeds and water-plants which is helping to clean it and

filter



pollutants out of it.



*9. Scene at Riebeeck Lake from a year ago*

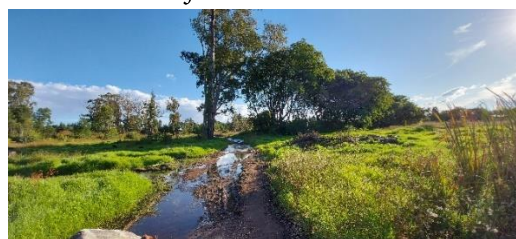
*9. Some litter and the remains of a cooking fire*



*9. Lake is now clean and little litter is left*



*8. Most of the problem at the lake is solved*



*8. Grasslands around the lake returning to nature*

However, the area the lake drains into across the road, see photo 5, which is the watershed for the surrounding suburbs has quite a lot of litter and drainage pipes and stormwater drains are getting



clogged up, see photos 2, 3 and 6. With significant rains having fallen recently, these needs clearing out and brush and blackjacks need to be brought under control. Along with a general clean-up of this vlei, I will hold an educational session and give a talk on wetlands, and watersheds in and around our town. I will give out a hand-out which explains how wetlands function and what they do to help us and why it is vital that we look after them. The running water has been channelled into a couple of streams of which the hyporheic zone needs to be dug and raked in order to restore the natural filtering and cleaning effect that wetlands provide.



*2. Stream directing waterflow into marshy area at vlei*



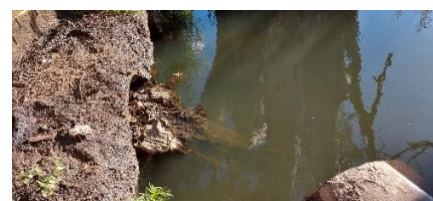
*2. Stormwater drains feeding water from suburbs*



*1. Litter and trash at outflow into stream*



*1. Grating at outflow*



*3. Mostly clogged stormwater drains*

I will be notifying some of the local schools and inviting the teachers so that if they want to, they can arrange for their class to attend. There will also be a notice in the local newspaper to advertise the event.



*3. Stormwater drains from the road*



*Vegetation needing clean-up under road.*



*5. Stormwater pipes bring water from*

Please see *Addendum A* on page 14 for the flyer about the event, which was sent to ward councillors and Municipal managers and selected businesses approached for sponsorship.

## Planning of the event

I am hoping that getting the Municipality on board will assist me with awareness of the event and that they may have the means to get or already have equipment from past events that can be used again. They may also be able to sponsor or help source sponsors for things that need to be paid for, such as gloves, black bags, the skip, equipment like bush cutters and rakes and pointed sticks, etc. I also want to provide drinks and a lunch to participants.

I approached the local newspaper, The Randfontein Herald to do an article on the clean-up day to attract people to attend but due to several public holidays leading up to the event, there was no time to publish it in the hard copy of the newspaper, but I was promised it would feature in the online 'What to do around town' section.

## Municipality and publicity

Clr. Jeje Legoete	MMC Water, Sanitation and Energy
Clr. Nozipho Mapena	MMC Integrated Environmental Management
Clr. Dan Machaba	MMC Roads, Stormwater and Transport.
Brian Nimmerhoudt,	MMC Human Development
Nozipho Mapena,	MMC Environmental Management
Pieter Erasmus,	DA Councillor for Greenhills ext. 6
Siena Erasmus	DA Councillor for Randgate
Tewie Botha	DA Councillor for Riebeeck area
Stanley Mabina	Ward Officer of Ward 9 Afri Village
Craig Harrison	DA Councillor
Kobie Myburgh	DA Liaison officer
Michelle Roodt,	Publicity at Caxton newspaper, The Randfontein Herald
Sandra Abrahams,	teacher at Toekomsrus Primary School
Brenda Naholo,	Manager of Elandsvlei orphan Division at Carryou Ministry
Joy Haman	Randfontein Publicity and Randfontein Ratepayers Association will distribute my pamphlet among her groups and business contacts.
Pastor Jabulani	St, John the Divine Anglican Church of Randfontein

## Agencies and Companies to involve

Joy Haman from Randfontein Publicity Association	Assisted with publicity
Rian from Oasis Water	donated 216 bottled water
Jolandie Pieterse from Truter, Crous and Wiggill	donated 100 black bags
Jacques from NWK gloves and 3 rakes	5 rolls black bags, 10 prs heavy-duty
Butterfield Bakery	100 hot dog rolls
Lenette from Tambotie mall rolls	108 pieces of wors and 108 hot dog
Nozipho Mapena and Zanele	arranged copies of brochures
The Randfontein Herald, Michelle and Tumi interview	pre-publicity and photos and

*Article online at Randfontein Herald webpage*

## Mass Riebeeck Lake clean-up on May 7

**A clean-up of Riebeeck Lake will be taking place at 10:00 on Saturday, May 7.**

May 5, 2022

Michelle Roodt Less than a minute

[Facebook](#) [Twitter](#) [LinkedIn](#) [Tumblr](#) [Pinterest](#) [Share via Email](#) [Print](#)



The whole community is invited to help with cleaning up Riebeeck Lake on Saturday, May 7. File photo.

Don't have any plans this weekend? Why not put on some clothes you do not care that much about and make a difference by helping to tidy up the [Riebeeck Lake](#).

The clean-up will be done at the Riebeeck Lake in Greenhills on Saturday, May 7 at 10:00 and all community members are welcome to lend a hand.

Drinks and food will be available during the clean-up.

Contact Wendy for more information on 079 134 1669.(Roodt 2022)

## *Sponsorships obtained*

Truter, Crous & Wiggill; gave 2 rolls of black bags

Oasis Water; gave 108 bottles of water

NWK Koöperasie; gave 3 rakes, 10 prs heavy duty gloves and 5 rolls of black bags

Randgate Pharmacy; gave 2 boxes surgical gloves

Butterfield Bakery; gave 100 bread rolls

Tambotie Mall; gave 108 bread rolls and 108 pieces of wors

RWCLM: assisted with the printing of brochures.

The Randfontein Ratepayers Association and Randfontein Publicity Association both have strong connections within the business community and can assist with finding sponsorship and raising awareness of the event. The DA ward councillors have a very strong presence among their Whatsapp groups and can publicize such events widely.

I also had a post on my social media pages, such as Patreon, LinkedIn, Facebook and Twitter to notify my networks about my plans.

Certain of the municipality MMCs and staff have cooperated in distributing the word around all the employees and encouraging attendance.

All the schools within Randfontein itself were notified and invited to announce the event and request attendance of the children, but they declined to do so without more time to make plans and get parents consent and make it part of the school syllabus and have the children do it as a project. They did, however request that we hold a follow-up event for them to bring the children



to as they do need to bring this into their curriculum in the next semester. We are now planning the next event so that we can involve the kids.

We, (my son and I), have been for walks around both the lake area and the vlei areas to determine the extent of the problem and have spoken to people we met along the way and invited them to come along, bring their friends and children.

Please see *Addendum B*, pages 15 and 16, for the handout used to describe the value of wetlands and how important they are. This will also be given to school pupils who participate in such projects in future.

## *Results and Overview of the event*

There were not as many people as I had hoped would come, but the event was well supported by both the municipality, including the mayor and most of the ward councillors and the environmental department. Even Mr. Randfontein and Mrs. Curve Randfontein were there. Pastors of two churches, teachers were there. The Randfontein Herald covered the event for the newspaper.

We got quite a bit done, but there is still much to do. There will be a follow-up during the coming week, in which the municipal CWP workers will come in there with their equipment and waders, during which the drainage pipes can be unblocked, and the stream channels cleared to allow the water to pass through better.

I would also like to do tests of the water to determine what pollutants we are dealing with, because we have several factories and manufacturers around the area and an old, decommissioned mine. Depending on the findings, action can be taken to stop further pollution and remediation of the current problem. There is already a court action in process by the MMC.

People have been grateful for what we did and have expressed interest in more such events. Schools have also asked me to host more such events and just give them more notice.

This is the message sent to the Whatsapp groups for those who supported the event:



Goeie dag. Ek wil net graag aan almal 'n baie groot dankie se wat kom uithelp het met my 'Restore the wetland' projek vandag. Julle was fantasties. Die Munisipale werkers, (CWP) gaan Donderdag verder skoonmaak met toerusting sodat ons van die stormwater dreins kan skoon kry en weer aan die gang. Hulle gaan ook in die water kan ingaan om die vullis daar skoon te maak. Daarna wil ek laat ons weer so 'n projek hou waar ons skole betrek en vir hulle inligting gee oor wetlands, ens. Ons het nie vandag by die worsbraai uitgekóm nie, maar ons sal dit oorhou vir volgende keer. Dit was die eerste geleentheid wat ek so iets gereel het so ons sal met 'n volgende geleentheid dalk beter doen, meer mense betrek en veel meer vullis opgetel kry.

*Article on webpage of Randfontein Herald*

## Clean-up project to save wetland

**'For many years I've been concerned about the Riebeeck Lake and the Bird Sanctuary environments because there's so much dumping and littering, and all the drains get blocked'.**

May 10, 2022

Tumi Riba 2 minutes read

[Facebook](#) [Twitter](#) [LinkedIn](#) [Tumblr](#) [Pinterest](#) [Share via Email](#) [Print](#)



Kobie Myburgh, Johan van Greunen, Hullet Hild, Sina Erasmus and Pieter Erasmus. Photo: Tumi Riba.

Ordinary residents and environmentalists embarked on a clean-up project for the Riebeeck Lake in an effort to reduce the pollutants endangering the environment.

Wendy de Klerk, Environmental Manager and coordinator of the clean-up on Saturday May 8 said certain precincts in Randfontein were threatened by human activity that could potentially harm wildlife and humans.

“For many years I’ve been concerned about the Riebeeck Lake and the Bird Sanctuary environments because there’s so much dumping and littering, and all the drains get blocked. The other problem is that when they cut the weeds and grass they don’t dispose of it properly,” Wendy explained.

She added that dumping in undesignated areas can release micro plastics, which are a threat to the environment as they end up in water sources in Krugersdorp, Magaliesburg and Hartbeespoort.

It's quite important that we keep our environment clean, therefore we're going to have events like this continuously so that our wetlands are taken care of," Wendy said.

Executive Mayor of the Rand West District Municipality (WRDM), Councillor Hullet Hild urged residents of Rand West City always to make sure they dispose of and manage waste correctly by using the designated dumping site for what it is intended.

The Mayor, however, admitted that people were reluctant to go to the dumping site as the road leading into the site was undrivable and people were intimidated and felt threatened by the presence of waster pickers at the site, therefore they resorted to dumping in other places.



Ordinary community members and officials came together for the clean-up operation at Riebeeck Lake.  
Photo: Tumi Riba.

"Part of the solution is that we sort out the dumping site and make sure it is easily accessible. While we're busy with that we can provide a small drop-off station with a ramp for people to drive onto and discard of the rubbish," Hullet said.

He added that children usually were sent to discard rubbish in the skip bins but because they could not reach the top they leave it next to the bins. There are five such skip bins around Randfontein.

We have to understand that we're part of the ecosystem and make sure that litter is managed properly. Also bear in mind that there is waste that can be recycled.

"We should also know that the municipality is not there to clean after us – we as the community should take ownership of how we manage waste," Hullet said.

#### **Wendy thanked the following sponsors for the day:**

Truter, Crous & Wiggill; Oasis Water; NWK Koöperasie; Randgate Pharmacy; Butterfield Bakery; Tambotie Mall; and RWCLM.

"We would also like to thank the WRDM Major Hullet Hild; *Mr Randfontein*; *Mrs Curve Randfontein*; MMC for Integrated Environmental and Water Management, Nozipho Mapena; all the ward councillors; Cornerstone Church; and members of the public who were there to support us in our efforts," Wendy said.(Riba 2022)





Member of public



Nozipho MMC Environment



Trash



Wendy de Klerk and Clr Pieter Erasmus



Barends Kotze and Wendy Photo Tumi Riba (Rft. Herald) and Wendy



Trash collected



Nozipho, Barend, Marinda and Wendy

The clean up event that took place has spurred a series of similar events taking place around town and several areas have held days to clean up and it has also been instrumental in getting rubbish collection services started in areas that have not been serviced before. We are also arranging large clean up events like the one above every couple of weeks, the next is scheduled for the 28<sup>th</sup> May starting at the Connexions Church. We have been in touch with the local schools, which would like to get involved in such events to fit in with their curricular activities and programs on recycling, and wetland preservation, etc. The ward councillors and various churches also wish to get involved. We have started a small movement and I hope to generate real momentum. We may not have had as many people as we wished, but I believe that as these events become better known, we will have more people take an interest and get involved, As Kings and Wild wrote, 'Individual versus collective action' we have done both and are inspiring more. (Kings 2019)



Teacher and Pastor Cornerstone church and school and members of her ward



Student



Ward councillor Sina Erasmus





Wendy de Klerk

(Barend Kotze), Mrs Curve Randfontein, (Marinda Troskie) Photo: Tumi Riba (Randfontein Herald)



Thanks to Oasis Water Photo: Tumi Riba



Mayor Hild, Mr. Randfontein

# *References*

De Klerk, WA 2018, *Water Flow West Randfontein (Part 1) Lake and Vlei (Wetland)*,

Kings, S, Wild, S 2019, *South Africa's Survival Guide to Climate Change*, Pan MacMillan, Johannesburg.

Riba, T 2022, 'Clean-up project to save wetland', *Randfontein Herald*, p. 1,

Roodt, M 2022, 'Mass Riebeeck Lake clean up on May 7', *Randfontein Herald*, May 5, 2022,

# *Rescue and Restore our vlei and watershed*

Help clean up the trash and litter at the vlei across the road from Riebeeck Lake

Talk and share at  
Randgate / Greenhills vlei  
7<sup>th</sup> May 2022 10h00



Please keep your children safe. They are your responsibility.

All ages welcome



# Wetland and Watershed Rescue

## What is a wetland?

A wetland is an area where water is covering the soil or the soil is saturated, causing the typical squelching sound when walked on. The area is usually waterlogged for a significant period throughout the year. There are usually water plants such as reeds, pampas grass, waterlilies and other floating plants growing in wetlands. These help filter the water of any unwanted contaminants and pollution.



## What does a wetland do?

Wetlands protect the soil from blowing away in high winds and washing away in strong rains. As water runs downhill it carries soil and sediment from farming and soil erosion, chemicals from farming and industry, and other pollutants and litter from housing developments.

This water comes into the wetland, which has specialized plants and slowly filters through the plants and waterlogged soil. This process the water is purified and comes out much cleaner on the other side. Wetlands are also places where small mammals, birds and insects abound. This creates a great natural haven amongst the houses. However, indigent and homeless people tend to live in and around these open areas and this gives the impression they are not safe and are dirty. A lot of trash and litter gets dumped here and this detracts from the natural beauty of the place and pollutes the water and clogs the drainpipes channelling stormwater from the surrounding suburbs. If the waterways get clogged up the wetland is unable to perform the vital task of cleaning and filtering out pollutants. Therefore, it is vitally important to keep the area clean and litter-free.



## What is a Watershed?

A watershed is an area of land, suburb, farmland, industrial complex that drains into a lower area of a lake, marsh, vlei, wetland or stream. Rainwater normally seeps into the ground if the ground is soft enough and the rain is gentle. However, in South Africa, we have a high clay content in the soil and when the ground is too hard to absorb the water or too saturated, or the rain is too hard and falls too fast to be absorbed fully, it runs downhill and collects at the lowest point into a wetland, marsh, vlei, or stream to continue to larger rivers, dams and lakes.

## What is a vlei?

A low area of marshy ground which at times can collect enough water to form a shallow lake. It usually maintains some level of water in throughout the year and the soil is generally waterlogged. In such areas the ground



is often waterlogged, but very shallow, not as deep or as large as a wetland.

## Pollution and Water Quality



Point-source-Pollution is pollution that can be traced to a specific site, such as a broken pipe or factory or disposal site. This is not the best way of identifying pollutants, although it is the fastest, and was most common.

However, much pollution is non-point-source, such as chemicals that are sprayed over large farming areas and enter the water system through rain. Sewage seepage from informal settlements and septic tank failure, and pollutants from parking complexes and construction sites, and many landfill sites which were poorly designed and not built with a waterproof lining, enter streams, rivers, and groundwater. There are also industrial pollutants, such as oils, sludge and byproducts of

manufacturing. This type of pollution is far more difficult to deal with and requires very careful management.

Mining activities are also responsible for a lot of water pollution as old mines fill up with water. The mining process makes use of a variety of heavy metals and substances and even some poisons like arsenic to extract and refine the mineral being mined. This leeches into the water filling up the mine and needs to be settled in settling ponds and then cleaned by other means such as lime absorption.



The public needs to be informed and educated in how to be responsible for their role in keeping our waterways clean and pollutant free.

You may think 'What can I do? I'm only one person. I can't change this sort of problem.' But don't be discouraged. Every person can make a difference. If you pick up some litter and throw it away responsibly, it won't clog a drain and allows water into the

wetland, to be cleaned and filtered. Improving the water quality also prevents bad smells. This also prevents potential flooding, an increasing risk with the crisis of climate change. People downstream will therefore benefit from your efforts.

### What about my Watershed?



Randfontein covers an extensive area which includes the Randfontein Estates Gold Mine, several acres of farmland, industrial, manufacturing, and commercial areas. With so many economic activities, there are many potential sources of pollution. There are three formal townships and several informal settlements as well as housing developments that are run-down and no longer habitable but are occupied by indigent people. Throughout all these areas water collects and flows, collecting many pollutants on the way.



### Our Water sources

Randfontein has water coming in from Westonaria and Carletonville in the South, via the Donaldson Dam, through the Randfontein (Con Joubert) Bird Sanctuary, which is a wetland. It then filters through to Riebeeck Lake and on through a series of ponds, streams, and marshland, to the vlei. Onward to De Fontein and out to the northeast towards the Krugersdorp Game Reserve and then further north towards Hartbeespoort Dam.

On the East side of town, we periodically have water at the Robinson Dam which used to serve as the cooling system for the power station, serving the Randfontein Estates Gold Mine and the town when the mine was thriving. The dam was also instrumental in the cultural life of the town at the time alongside the dance hall, clubhouse, golf club and picnic area. The area has since become

a ghost town and been declared a no-go zone due to radiation pollution from the mine. Although it is now being pumped and processed, the soil and water of the area still contain radioactive elements, posing a danger to locals.

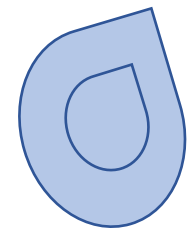
### More information

Boyce Makhosonke Manele, A 2017, *West Rand distRict Municipality WETLAND REPORT* | 2017, USAID South Africa,

De Klerk, WA 2018, *Water Flow West Randfontein (Part 1) Lake and Vlei (Wetland)*,

Hoban, T n.a., *Getting to know your local watershed*, Lafatyette.

Meyer, J 2014, 'Riebeeck Lake: Disaster Area', *Randfontein Herald*,



# I Declare that I will:

1. Adhere to the Constitutional Guidelines for maintaining a clean environment for all



2. Incorporate the principles of Reuse, Reduce and Recycle



3. Be economical in my use of natural resources



4. Plant and maintain only indigenous gardens and trees



5. Remove any alien vegetation when I come across it

