



January 2020

# UPGRADE AND INSTALLATION OF STORMWATER INFRASTRUCTURE ALONG DIVISIONAL RD. 1001, FROM KM 3.64 – KM 7.69, HANGKLIP, WESTERN CAPE

DEA&DP reference number: 16/3/3/1/B2/31/1009/19

Environmental Control Officer Monthly Report

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## OVERBERG DISTRICT MUNICIPALITY

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## Executive summary

The Overberg District Municipality was appointed as the Environmental Control Officer (ECO) by the Department of Transport and Public Works for the upgrade and installation of stormwater infrastructure along Divisional rd. 1001, from km 3.64 – km 7.69, Hangklip, Western Cape.

This document serves as the monthly report for January 2020 and is the fourth ECO report for this project.

The following areas were inspected during January.

- The pipe- culvert at km 4.08
- The pipe- culvert at km 6.34
- The pipe- culvert at km 7.07
- The pipe- culvert at km 7.42
- Stockpile site
- Storage area for plant and equipment
- Water abstraction point

Compliance score:

Monitoring categories	Conformance Score (%)
Western Cape Government: Environmental Authorisation	80%
Environmental management programme	90%
Rehabilitation report	Not applicable
Contractor's method statements	87.5%
<b>TOTAL</b>	<b>89%</b>

Way forward:

- The project restarted on 13 January 2020 with the excavation of culvert at km 4.08, 7.07 and 7.42. Due to heavy rain a drainage channel had to be cleared to allow for water flow at culvert at km 4.08. Excavation at culverts 7.07 and 7.42 is done manually to limit the impact on the surrounding environment.
- Alien vegetation regrowth has been observed at the drainage line at culvert 6.34. The site needs to be rehabilitated according to the approved Rehabilitation Plan. Alien vegetation control also needs to take place at the topsoil stockpile.
- Continued monitoring is taking place at the water abstraction site.

- The storage area for the plant and equipment needs to be maintained. The refuse bin needs to be closed and all grease and oil spills removed. There are no drip trays on site.

<b>Project Team</b>			
<b>Contact person</b>	<b>Position</b>	<b>Organisation</b>	<b>Email address</b>
Mannie van Eeden	Project Manager	DPWT	mvaneeden@odm.org.za
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Francois Kotze	Environmental Control Officer	ODM	fkotze@odm.org.za
Rulien Volschenk	Environmental Control Officer	ODM	rvolschenk@odm.org.za

## Report approval

Project name: Upgrade of existing degraded pipe culverts at km4.08, km 5.31, km 7.07, and km 7.42, proposed installation of a new culvert at km 6.34, proposed installation of new sub-soil drains at km 6.36, 6.38, 6.40, 6.42 and 6.44 along divisional road 1001, Hangklip, Western Cape.

Report title: Environmental Control Officer Monthly Report

Authors: F Kotze, R Volschenk

DEA&DP reference no.: 16/3/3/1/B2/31/1009/19

Compliance Report no.: 4

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Report signed off by appointed ECO \_\_\_\_\_



Mr. Francis Kotze

Manager: Environmental Management

Submission date to project manager: \_\_\_\_\_

13/02/2020  
Date

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## List of acronyms and abbreviations

BAR	Basic Assessment Report
BGCMA	Breede/Gouritz Catchment Management Agency
DEA&DP	Department of Environmental Affairs and Development Planning
DTWP	Department of Transport and Public Works
EA	Environmental Authorisation
ECO	Environmental Control Officer
EMPr	Environmental Management Programme
EO	Environmental Officer
ESO	Environmental Site Officer
KPI	Key Performance Indicator
MMP	Maintenance Management Plan
NEMA	National Environmental Management Act of 1998
ODM	Overberg District Municipality
RE	Resident Engineer

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## Definitions

<b>Alien species</b>	Plants and animals which do not arrive naturally in an area - they are brought in by humans. Alien plants often force indigenous species out of the area. Rooikrans is a good example of alien species in the Cape.
<b>Biodiversity</b>	The rich variety of plants and animals that live in their own environment. Fynbos is a good example of rich biodiversity in the Cape.
<b>Competent Authority</b>	Refers to the Western Cape Government Department of Environmental Affairs and Development Planning.
<b>Contamination</b>	Polluting or making something impure.
<b>Corrective (or remedial) action</b>	Response required to address an environmental problem that is in conflict with the requirements of the EMP. The need for corrective action may be determined through monitoring, audits or management review.
<b>Ecosystem</b>	The relationship and interaction between plants, animals and the non-living environment.
<b>Environment</b>	Our surroundings, including living and non-living elements, e.g. land, soil, plants, animals, air, water and humans. The environment also refers to our social and economic surroundings, and our effect on our surroundings.
<b>Environmental Authorisation</b>	Means the authorisation by a competent authority of a listed activity or specified activity in terms of the National Environmental Management Act of 1998 and includes a similar authorisation contemplated in a specific environmental management act.
<b>Habitat</b>	The physical environment that is home to plants and animals in an area, and where they live, feed and reproduce.
<b>Hazardous waste</b>	Waste, even in small amounts, that can cause damage to plants, animals, their habitat and the well-being of human beings, e.g. waste from factories, detergents, pesticides, hydrocarbons, etc.
<b>Impact</b>	A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
<b>Indigenous species</b>	Plants and animals that are naturally found in an area.



<b>Infrastructure</b>	The network of facilities and services that are needed for economic activities, e.g. roads, electricity, water, sewerage.
<b>Mitigation</b>	Measures designed to avoid, reduce or remedy adverse impacts.
<b>Natural environment</b>	Our physical surroundings, including plants and animals, when they are unspoiled by human activities.
<b>Rehabilitation</b>	Land rehabilitation is the process of returning the land in a given area to some degree of its former state, after some process has resulted in its damage.
<b>Resources</b>	Parts of our natural environment that we use and protect, e.g. land, forests, water, wildlife, and minerals.
<b>Storm water management</b>	Strategies implemented to control the surface flow of storm water such that erosion, sedimentation and pollution of surface and ground water resources in the immediate and surrounding environments are mitigated. This is specifically important during the construction and decommissioning phases of a project.
<b>Waste Management</b>	Classifying, recycling, treatment and disposal of waste generated during construction and decommissioning activities.
<b>Wetlands</b>	An area of land with water mostly at or near the surface, resulting in a waterlogged habitat containing characteristic vegetation species and soil types e.g. vleis, swamps.

# 1. Introduction

The Department of Transport and Public Works (DTPW): Road infrastructure Branch applied for Environmental Authorisation (EA) for the upgrade of Divisional Road 1001.

Divisional road 1001 is an existing degraded gravel road that will be upgraded to a surfaced road to enhance the road conditions. The resurfacing of the road itself did not trigger any listed activities but the upgrade and installation of new storm water infrastructure did trigger a Basic Assessment Report (BAR).

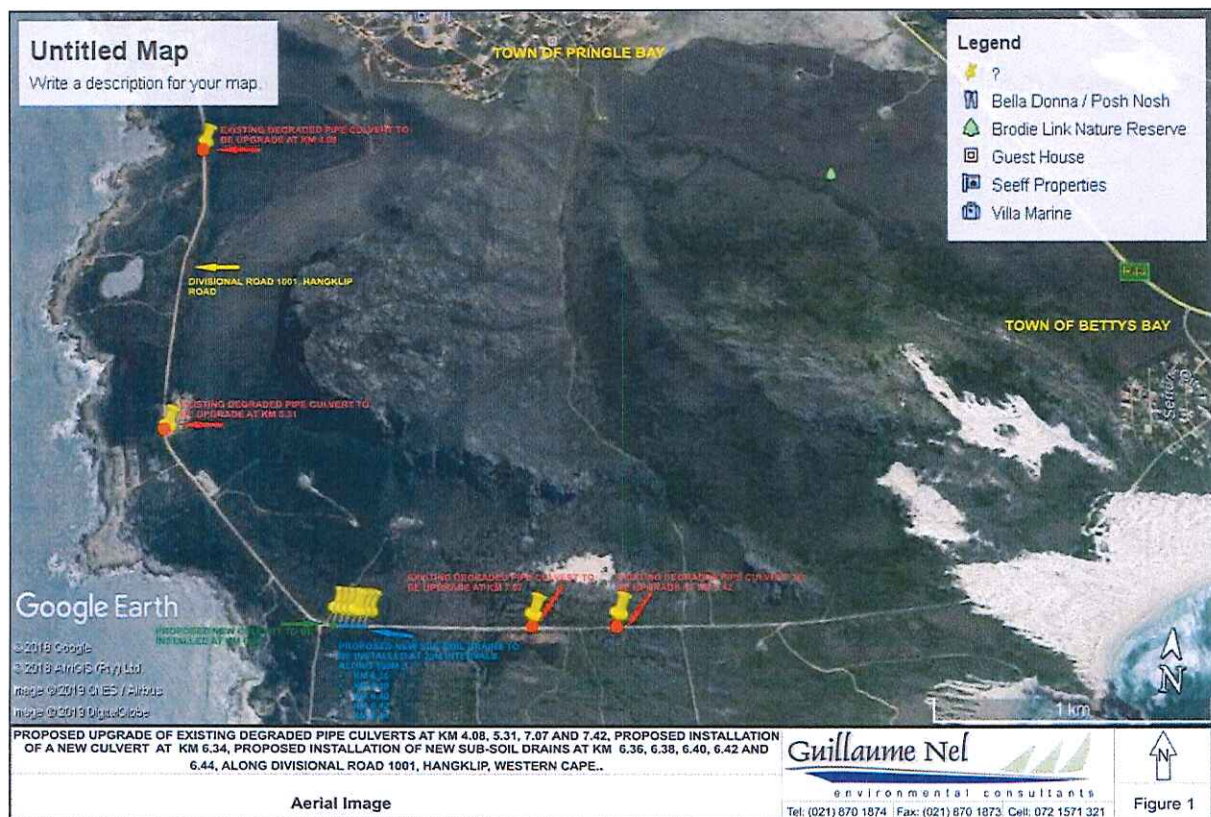


Figure 1: Location map of proposed activities

The DTPW obtained authorisation to undertake the following activities:

1) The upgrade of the following existing degraded pipe culverts:

- Pipe-Culvert at Km 4.08 will be upgraded from an x1 450 mm diameter to: x2 900mm diameter pipe culvert.
- Pipe-Culvert at Km 5.31 will be upgraded from an x1 453mm diameter to: x2 600mm diameter pipe culvert
- Pipe- Culvert at km 7.07 will be upgraded from an x1 450mm diameter to: x2 600mm diameter pipe culvert.
- Pipe Culvert at km 7.42 will be upgraded from an x1 450mm diameter to: x1 900mm diameter pipe culvert.

- 2) The installation of two new 900mm diameter pipe culverts with new wing-walls and an apron slab at km6.34; and
- 3) The installation of five new 200mm diameter sub-soil drains with new wing-walls and apron slabs at:
  - Km6.36
  - Km6.38
  - Km6.40
  - Km6.42; and
  - Km6.44

The site camp is located on Portion 101 of Farm 559, Hangklip, Pringle Bay. The site was considered suitable for the following reasons:

- The site falls outside Critical Biodiversity Areas (CBA);
- The site falls within the previously disturbed and degraded road reserve;
- The site is highly infested with invasive vegetation and will be rehabilitated;
- Access to the site is existing; and
- The owner of the property as well as Overstrand Municipality and Overberg District Municipality gave consent.



Figure 2: Refer to white block – approved site camp

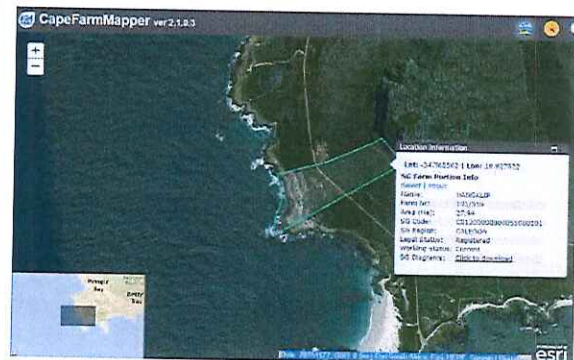


Figure 3: Erf on which the approved site camp is located

As part of the Basic Assessment process an Environmental Management Programme (EMPr), Maintenance Management Plan (MMP) and Rehabilitation Plan were developed to guide construction and operational activities.

## 2. Duties of the ECO

The Environmental Management Services Department of the Overberg District Municipality was appointed as the independent Environmental Control Officer (ECO) by the DTPW.

The ECO's functions in terms of environmental compliance monitoring are to monitor activities as approved in the EA and described in the EMPr, MMP and Rehabilitation Plan.

### Reporting

As stipulated in the EMPr the ODM is responsible for weekly audits to monitor adherence to relevant environmental legislation, conditions of the EA, and the EMPr.

The **ODM will also conduct monthly independent environmental audits**. Monthly Audit reports are to verify the projects compliance with the EMP and conditions of the EA.

Environmental audits will also be done quarterly in accordance with Appendix 7 of the NEMA EIA Regulations of 2014 and submitted to the CA.

### Key performance indicators (KPI)

Evidence of the following as KPI, must be included in the audit reports:

- Complaints received from landowners and actions taken.
- Environmental incidents, such as oil spills, concrete spills, etc. and actions taken (litigation excluded).
- Incidents leading to litigation and legal contraventions.
- Environmental damage that needs rehabilitation measures to be taken.

### Compliance rating

Rating	Definition	Compliance score
Compliant	Complete adherence to the conditions as stipulated in the EA, EMPr, MMP or Rehabilitation Plan.	2
Non - compliant	If there is no or partial adherence to the conditions as stipulated in the EA, EMPr, MMP or Rehabilitation Plan.	0
Not applicable	Refers to those conditions that is not relevant to this specific report.	2

Formula to be used when calculating the conformance score:

$$\text{Conformance score (\%)} = \frac{\text{Total compliance weight} \div \text{No. of conditions audited}}{2}$$

### 3. ECO monitoring report

This report concludes the compliance monitoring for the period 01 January 2020 until 31 January 2020

#### Summary of Monthly ECO Monitoring Checklist: January 2020

Monitoring categories	Conformance Score (%)
Western Cape Government: Environmental Authorisation	80%
Environmental management programme	90%
Rehabilitation report	Not applicable
Contractor's method statements	87.5%
<b>TOTAL</b>	<b>89%</b>

#### 3.1 Western Cape Government: Environmental Authorisation

The Environmental Authorisation (EA) for the upgrade of the upgrade and installation of stormwater infrastructure along Divisional rd. 1001, from km 3.64 – km 7.69, Hangklip, was obtained on 08 of August 2019.

Conditions of approval:

Condition	Compliance score	Comment
<b>Monitoring</b>		
Appoint an ECO or site agent before commencement of any land clearing or construction activities.	0	Due to a delay in appointment, initial clearing activities have commenced prior to the appointment of the ECO. An ECO was appointed during the month of September.
A copy of the EA, EMP, audit reports and compliance monitoring reports must be kept at the site of the authorised activities and must be made available to anyone on request, including a publicly accessible website.	2	A copy of EA and EMP was provided to the site supervisor.  Note: There is no physical site office for documents to be kept. If the public or CA wants access to these documents, they can request

		it from the site supervisor directly.
Access to the site must be granted, and the environmental reports mentioned above must be produced, to any authorised official representing the Competent Authority who request to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein.	2	The site is accessible.  Note: There is no physical site office for documents to be kept. If the public or CA wants access to these documents, they can request it from the site supervisor directly.
<b>Auditing</b>		
The holder must undertake an environmental audit quarterly for the duration of the construction phase.	2	N/A. Quarterly reports will be submitted for the period September – December 2019
Environmental Audit Reports must be submitted to the Competent Authority once every six months during the construction phase.	2	N/A. Audit reports will be submitted.
The final Environmental Audit Report must be submitted to the Competent Authority within six months after operation commenced.	2	N/A. Audit report will be submitted.
The holder must, within 7 days of the submission of each of the above-mentioned reports to the Competent Authority, notify all potential and registered I&AP of the submission and make the report available to anyone on request and on a publicly accessible website.	2	The audit reports will be hosted on <a href="http://www.odm.org.za">www.odm.org.za</a>
<b>Specific conditions</b>		
Should any heritage remains be exposed during excavations or any other actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape.	2	N/A
A qualified archaeologist and/or palaeontologist must be contracted where necessary (at the expense of the holder) to remove any heritage remains. Heritage remains can only be disturbed by a suitably qualified heritage specialist working under a directive from the relevant heritage resources authority.	2	N/A
The construction footprint must be demarcated prior to the commencement of construction	0	Partial compliance. The construction sites are

activities. Wetland features beyond the construction footprint must be demarcated as “no-go” areas.		demarcated to some extent, but the boundary between construction area and no-go areas are not clearly defined.
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**Conformance score: 80%**

Total compliance weight: 16

No. of conditions audited: 10

### 3.2 Environmental management programme

The implementation of the EMP is legally binding through NEMA and the relevant EA. The Environmental Control Office, appointed by the developer after environmental approval, must use this EMP during the ECO audits to determine the developer’s compliance to it.

Condition	Compliance score	Comment
<b>Pre-construction: Awareness and training</b>		
Environmental awareness induction session.	0	No formal induction session. Ongoing discussions with the work team regarding specific environmental issues by the ECO and site supervisor.
Erecting of public information boards.	2	An information sign has been erected.
Development of awareness posters and a hand out must be produced to create awareness throughout the site.	0	No posters or awareness material on site.
<b>Pre-construction: Site documentation</b>		
Access negotiations and physical access plan.	2	There is a site plan.
Site daily diary / instruction book.	2	Work instruction sheets are being kept daily
Records of all remediation / rehabilitation activities	2	Rehabilitation plan is on site. To be implemented after construction.
Copies of EO/ESO reports	2	Work instruction sheets are being kept daily
Environmental Management Programme	2	Compliant
Complaints register	2	Compliant.
<b>Pre-construction: Site demarcation and development</b>		

The project area and construction footprint must be clearly demarcated.	2	Construction areas are clearly demarcated.
<b>Pre-construction + construction: Flora</b>		
Prior to construction a search and rescue for seeds, plants and geophytes need to be conducted within the construction footprint.	2	Search and rescue were conducted.
Adjacent natural areas need to be clearly condoned off and seen as no-go areas.	0	Partial compliance. The construction sites are demarcated to some extent, but the boundary between construction area and no-go areas are not clearly defined.
<b>Pre-construction+ construction: Fauna</b>		
All possible sensitive faunal species found within the construction footprint must be rescued and relocated to the natural adjacent areas.	2	Compliant
<b>Pre-construction+ construction: Topsoil</b>		
Topsoil to be protected and stored in approved areas.	2	Compliant
Topsoil to be placed back after construction in disturbed areas as part of the rehabilitation.	2	Topsoil to be used for the rehabilitation of construction areas and camp site.
Topsoil need to be clearly seen as no-go areas.	2	Compliant
Topsoil needs to be protected and preserved for rehabilitation purposes.	2	Compliant
<b>Construction: Stockpiles</b>		
All stockpiled material must be easily accessible on site without any environmental damage of the surrounding properties.	2	Compliant
All temporarily stockpiled material must be stockpiled in such a way that the spread of materials is minimised.	2	Stockpiles are stored in proximity from where it was removed.
In the case of strong wind and/or rain all stockpiled material must be covered with a tarpaulin in order to prevent erosion.	0	Material is not covered.
The stockpiles may only be placed within the demarcated areas	2	Compliant
Stockpiles are to be stabilised if signs of erosion are visible.	2	Compliant



Soils from different horizons must be stockpiled such that topsoil stockpiles do not get contaminated by sub-soil material.	2	Not applicable.
Topsoil stockpiles must be monitored for invasive exotic vegetation growth. Contractors must remediate as and when required in consultation with the EO, RE and ECO.	0	Alien vegetation regrowth on stockpile.
Stockpiles must not be higher than 1.5m to avoid compaction thereby maintaining the soil integrity and chemical composition.	2	Compliant
<b>Construction: Materials</b>		
Any imported material used during the construction needs to be obtained from an approved source. Sand without any seed from invasive species must be used	2	Compliant
No sea sand may be used for mixing in cement and for in-filling.	2	Compliant
No unused materials from the old road infrastructure or materials used for the repair and upgrade of road infrastructure shall be left on site, neither by burying nor by working it into the soil.	2	Compliant.
<b>Construction: Oils and chemicals</b>		
These substances must be confined to specific and secured areas within the contractor's camp, and in a way that does not pose a danger of pollution even during times of high rainfall.	2	Not applicable. There is no storage of oils and chemicals on site.
These areas must be imperviously bunded with adequate containment (at least 1.1 times the volume of the fuel) for potential spills or leaks	2	Not applicable. There is no storage of oils and chemicals on site.
Drip trays (minimum of 10cm deep) must be placed under all machinery and vehicles.	0	No drip trays were observed.
Any spills larger than 100ℓ should be reported to all local authorities.	2	No incident. Any NEMA section 30 incident will be reported to ODM.
Spill kits must be available on site and in all vehicles that transport hydrocarbons for dispensing to other vehicles on the construction site.	2	Kits are available for the two vehicles transporting hydrocarbons.
All spilled hazardous substances must be contained in impermeable containers for removal to a General	2	Compliant

& Hazardous Waste Landfill site, (this includes contaminated soils, and drenched spill kit material).		
<b>Construction: Cement</b>		
Cement must be mixed and transported in leak and splash proof containers.	2	Compliant
Should a cement spill occur, then the spilled material, as with all waste materials, must be removed completely and spoiled in a designated spoils site.	2	Compliant
Cement batching areas must be located in an area that does not fall within sensitive areas such as river systems.	2	Compliant
The mixing of concrete shall only be done at selected sites on mortar boards or similar structures to contain run-off into natural vegetation, soils, and streams.	2	Compliant
All empty containers must be stored in a dedicated area and later removed from the site for appropriate disposal at a Licensed Landfill site	2	Compliant
All empty cement bags are to be picked up immediately.	2	Compliant
The visible remains of concrete, either solid, or from washings, shall be physically removed immediately and disposed of as waste to a Licensed Landfill site.	2	Compliant
<b>Construction: Dangerous and toxic materials (storage facilities)</b>		
Materials such as fuel, oil, paint, herbicide and insecticides must be sealed and stored in bermed areas or under lock and key, as appropriate, in well-ventilated areas.	2	Not applicable.
Storage facilities should be bunded, roofed, secure, rain, wind and tamper proof.	2	Not applicable.
Storage areas shall display the required safety signs depicting "no smoking", No Naked lights" and "Danger" containers shall be clearly marked to indicate contents as well as safety requirements.	2	Not applicable.
Empty containers shall be removed to a General & Hazardous Waste Landfill site.	2	Not applicable.

Construction: Dangerous and toxic materials (bulk storage of fuels and oils)		
Bulk fuel storage tanks on the site shall be on an impervious surface that is bunded and able to contain at least 110% of the volume of the tanks.	2	Not applicable. No bulk storage of fuel and oils on site
A Flammable Liquid License must be obtained for diesel volumes greater than 200 litres.	2	Not applicable. No bulk storage of fuel and oils on site
Bulk fuel storage tanks shall be located in a portion of the construction camp where they do not pose a high risk in terms of water.	2	Not applicable. No bulk storage of fuel and oils on site
Bulk fuel storage tanks shall be placed so that they are out of the way of traffic.	2	Not applicable. No bulk storage of fuel and oils on site
Bulk fuel storage should be covered during the rainy season.	2	Not applicable. No bulk storage of fuel and oils on site
Construction: Dangerous and toxic materials (use of dangerous and toxic materials)		
The contractor shall keep the necessary materials and equipment on site to deal with spills/ fire of the materials present should they occur.	2	Compliant
A record must be kept of all spills and the corrective action taken.	2	Compliant
Construction: Eating areas and camp followers		
The Contractor shall, in conjunction with the EO, designate the restricted eating area for eating during normal working hours.	2	Not applicable
Two refuse bins with lids must be provided and cleaned on a daily basis.	0	Partial compliance: Three bins on site. No lids.
Designated areas for smoking must be provided.	0	Not practical. Because construction activities take place on several locations a designated smoke area cannot be determined.
No fires will be allowed on site.	2	Compliant
No animals, domestic or otherwise are allowed on the premises.	2	Compliant
Litter (even if originating outside the camp) and concrete bags etc. must be picked up and put into suitably closed bins.	2	Litter originated from construction or personnel activities is collected and taken away daily.

Construction: Toilets and ablution facilities		
The contractor will be responsible for providing all sanitary arrangements for his and the sub-contractors team.	2	There are toilet facilities on site.
All toilets will be located within the contractor's camp.	2	The toilet is situated in the area where the plant equipment is stored.
The contractor (who must use reputable toilet-servicing company) shall be responsible for the cleaning, maintenance and servicing of the toilets.	2	Compliant.
Toilets out on site must be secured to the ground and have a sufficient locking mechanism operational at all times.	2	Compliant.
Construction: Waste management		
No illegal dumping of waste.	2	Compliant.
Proof of legal dumping must be able to be produced on request.	2	General waste is being discarded of at the local transfer station. No waste certificate is issued for proof.
All refuse bins must have a lid secured so that animals cannot gain access.	2	Waste are removed daily to avoid luring animals.
Sufficient closed containers must be strategically located around the construction site to handle the amount of litter, wastes, rubbish, debris and builders waste generated on the site.	2	Waste are not stockpiled on site.
All solid and chemical wastes that are generated must be removed and disposed of at a licensed waste disposal site.	2	Compliant
A skip, with a cover, must be used to contain refuse from campsite bins, rubble and other construction material.	2	Not applicable.
Construction: Dust		
No abstraction from any river	0	Water abstraction is currently taking place in the Buffels Rivier. An historic water abstraction point.
Potable water cannot (as far as possible) be used as a means of dust suppression	2	Compliant

The construction camp shall be watered during dry and windy conditions to control dust fallout.	2	Compliant
All vehicles transporting material that can be blown off (e.g. soil, rubble etc.) must be covered with a tarpaulin, and speed limits of 20 km/h must be adhered to.	2	Compliant
<b>Construction: Workshop equipment, maintenance and storage</b>		
All maintenance and washing of vehicles and equipment shall be done off-site as far as possible.	2	Compliant
The Contractor shall be in possession of an emergency spill kit that must be complete and available at all times on site.	2	Compliant
<b>Construction: Noise</b>		
All construction vehicles must be in a good working order to reduce possible noise pollution.	2	Equipment is in a good working condition. Construction activities are limited to business day working hours.
<b>Construction: Crew camps</b>		
The contractor's camp, offices and storage facilities shall be located within the site boundaries.	2	Not applicable. There is no office and storage facilities.
No fires will be allowed on site.	2	Compliant
The Contractor shall ensure that there is appropriate fire-fighting equipment available on site at all times.	2	Compliant
<b>Construction: Erosion and sediment</b>		
Visual inspections of the construction area and the watercourses should be undertaken frequently.	2	Done frequently.
During the rainy season, silt traps needs to be installed within the watercourse before construction may commence	2	Not applicable.
The contractor shall be responsible for rehabilitating all disturbed areas in such a way that the erosion potential is minimised after construction has been completed.	2	Compliant
<b>Construction: Access route/haul roads</b>		
Existing access roads or the most disturbed area to be used as access.	2	Work are restricted to the road reserve.

Road construction vehicles and machinery to strictly stay on existing road. Adjacent natural areas need to be clearly seen as no go areas.	2	Work are restricted to the road reserve.
<b>Construction: Crime, safety and security</b>		
No site staff, other than security personnel and skeleton staff shall be housed on site	2	Compliant
A boundary fence will serve to prevent public access to the site,	2	Stockpile area is fenced off.
The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the National Building Regulations.	2	Compliant
<b>Construction: Visual impact</b>		
The contractor must rehabilitate all disturbed areas once construction activities have terminated.	2	Will be done in accordance with the Rehabilitation Plan.
Topsoil need to be placed back in such a way that it blends in with the natural contour and surrounding of the natural environment.	2	Will be done in accordance with the Rehabilitation Plan.
Disturbed areas to be planted and sown with endemic species of the area.	2	Will be done in accordance with the Rehabilitation Plan.
Rubble and litter must be removed every week or more often as the need arises and be disposed of at a registered landfill site	2	Rubble and litter are removed daily.
<b>Construction: Hydrology</b>		
Control erosion and sedimentation in areas especially in close proximity to the watercourse.	2	Will be monitored and addressed when required.
Run-off from hard surfaces needs to be channelled away from sensitive slopes and to be designed to reduce runoff water flow speeds.	2	Will be monitored and addressed when required.
The contractor shall ensure that excessive quantities of sand, silt and silt-laden water do not enter the River system.	2	Will be monitored and addressed when required.
<b>Construction: Soil and groundwater</b>		
The surface 0.25m of topsoil is to be kept separate from the excavated subsurface layers.	2	Topsoil is separated from other construction material.
Topsoil is to be replaced in the location it was removed from after construction activities is completed, such that the surface layers are	2	Will be done in accordance with the Rehabilitation plan.

replaced so that they again form the surface layers here following construction activities.		
The topsoil is to be stored in a weed-free environment in heaps not exceeding 1.5m in height.	0	The stockpile area was overgrown with Acacia Cyclops. Regrowth of Acacia Cyclops has been observed in the topsoil stockpile.
Stock piles may not be ridden on by any machinery or walked on by staff.	2	Compliant
Soil should not be stored for longer than three months.	2	Top soil can only be placed back once construction activities are concluded. With the installation of the culverts adherence to this condition is viable, but not for the site camp.
Backfill will require contouring to ensure that it blends in with the surrounding environment.	2	Will be done in accordance with the Rehabilitation plan.

**Conformance score: 90%**

Total compliance weight: 178

No. of conditions audited: 99

### 3.3 Rehabilitation report

Guillaume Nel Environmental Consultants (GNEC) has been appointed to compile a rehabilitation plan for the propose site camp on Farm number 101/559 for the road and storm water infrastructure upgrade along Divisional road 1001, Hangklip, Western Cape.

Rehabilitation measures included:

Activity	Compliance score	Comment
<b>Alien clearing management</b>		
An alien clearing Management Plan need to be implemented for at least one year after rehabilitation	2	Not applicable for this report
<b>Rehabilitation by means of pocket planting and hand sowing</b>		
Planting of endemic species in accordance with the rehabilitation plan (6 pockets of 10m x 10m)	2	Not applicable for this report

Areas that will not be planted in between the planted pockets will be hand sown with seeds collected during the search and rescue.	2	Not applicable for this report
<b>Ripping and shaping prior to rehabilitation</b>		
Prior to planting and hand sowing the compacted soil need to be ripped and shaped in such a way that it blends in with the natural contour and drainage lines of the site.	2	Not applicable for this report
<b>Cordoning off rehabilitated area</b>		
After rehabilitation the area needs to be clearly cordoned off to ensure that no damage is done to the rehabilitated area.	2	Not applicable for this report
<b>Timing of rehabilitation</b>		
Planting will be at the beginning of the rainy season.	2	Not applicable for this report

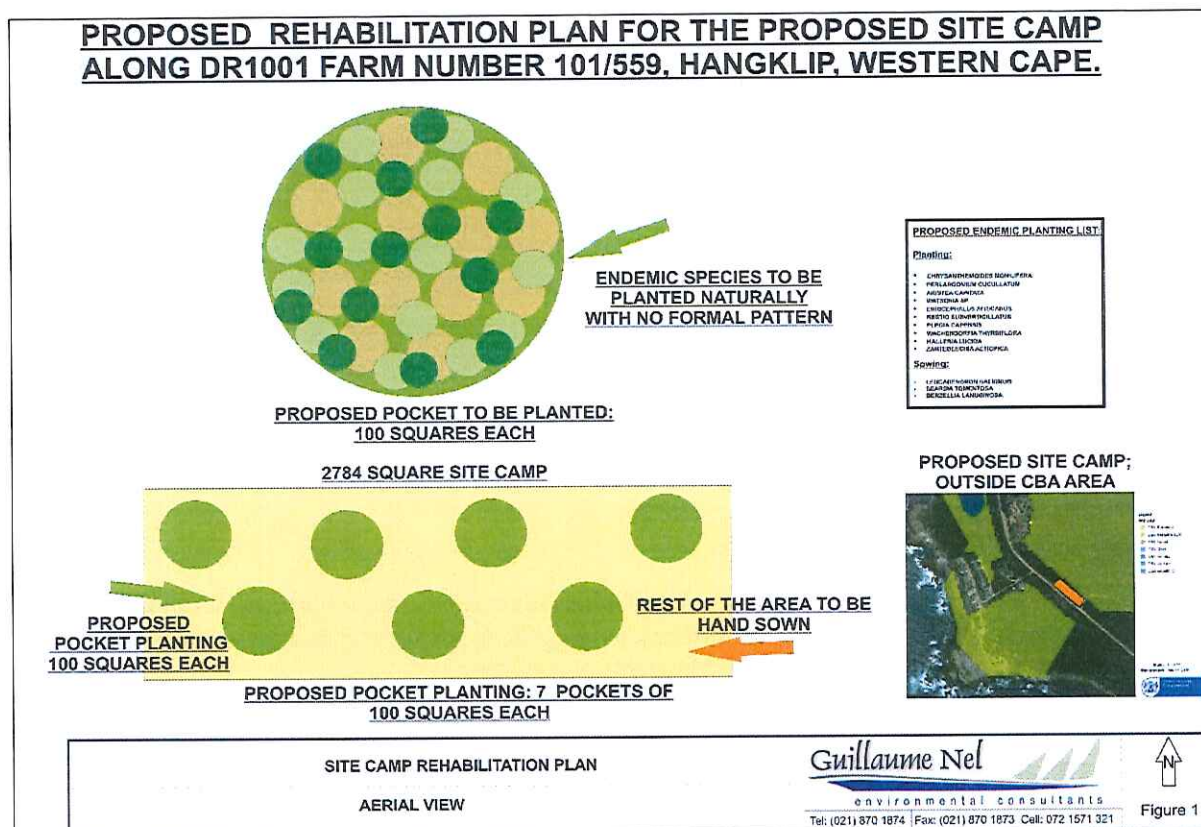


Figure 4: Rehabilitation plan for site camp



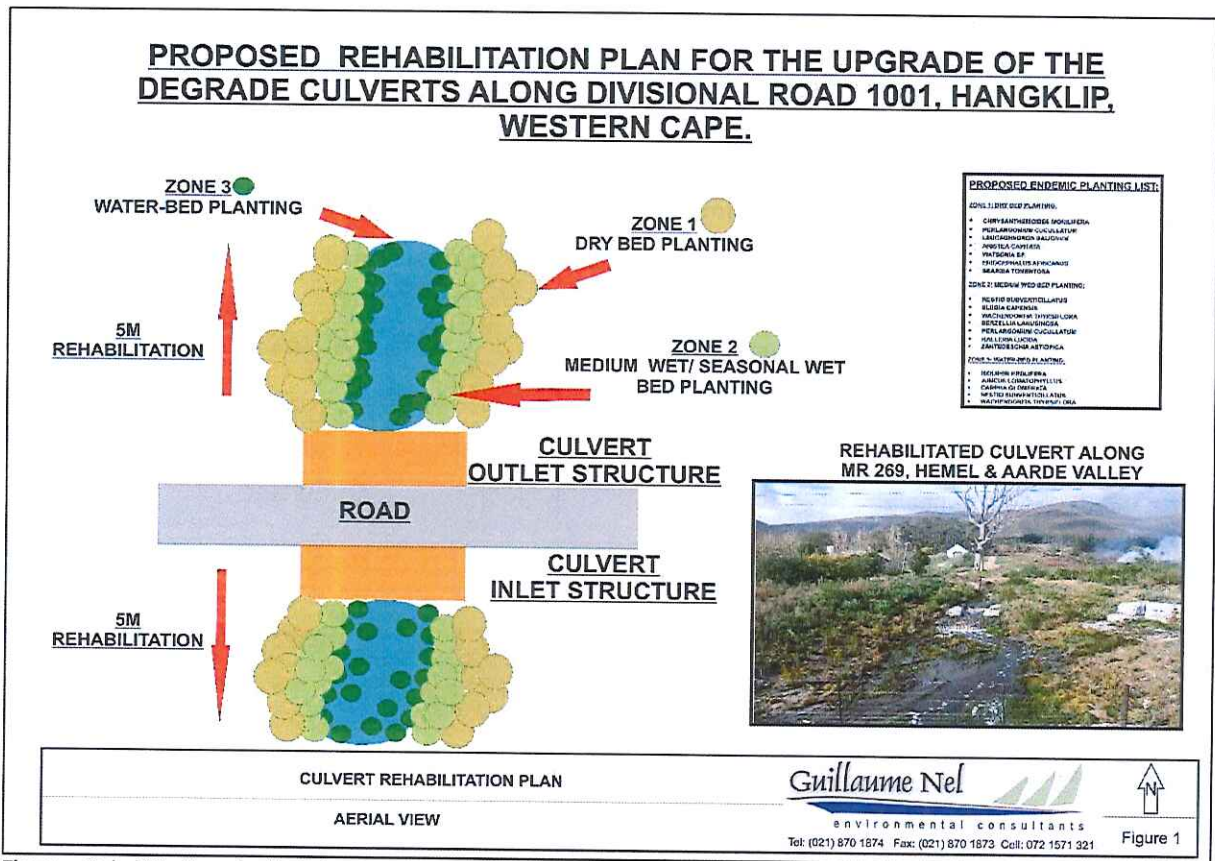


Figure 5: Rehabilitation plan for culverts

Conformance score: 100%

Total compliance weight: 12

No. of conditions audited: 6

### 3.4 Maintenance management plan

The purpose of the MMP is to maintain both man-made and ecological infrastructure in a manner that either improves the current state of, and/or reduces the negative impacts on a watercourse to ensure that ecosystems services are preserved/improved and to prevent further deterioration of the watercourse.

The MMP that was prepared by Guillaume Nel Environmental Consultants shall be implemented during the operational phase of this project.

### 3.5 Contractor's method statements

The contractor must provide method statements on the protocols to be followed, and contingencies to be put in place for the following, before construction may begin:

Method statement	Compliance score	Comment
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Emergency spills procedures for the contamination of soils from spills and fire	2	Compliant
Handling of oils and chemicals	2	Compliant
Cement and concrete batching, which includes the storage, washing & disposal of cement, packaging, tools and plant.	2	Compliant
Diesel tanks and refuelling procedures.	2	Compliant
Crew camps and construction lay down areas.	2	Compliant
Workshop maintenance and cleaning of plant.	2	Compliant
Dust control	0	No method statement
Material safety data sheets (hazardous substances)	2	Compliant

**Conformance score:** 87.5%

Total compliance weight: 14

No. of conditions audited: 8

### 3.6 ECO site inspection

Construction activities commenced on the 13<sup>th</sup> of January 2020. Site inspections were done on 09, 20, and 30 January 2020. (Refer to Figure 6 for the location of each site). Construction work was completed at culvert at km 6.34 and excavation activities commenced at the culverts at km 4.08, 7.07 and 7.42.

- The pipe- culvert at km 4.08
- The pipe- culvert at km 6.34
- The pipe- culvert at km 7.07
- The pipe- culvert at km 7.42
- Stockpile site
- Storage area for plant and equipment
- Water abstraction point

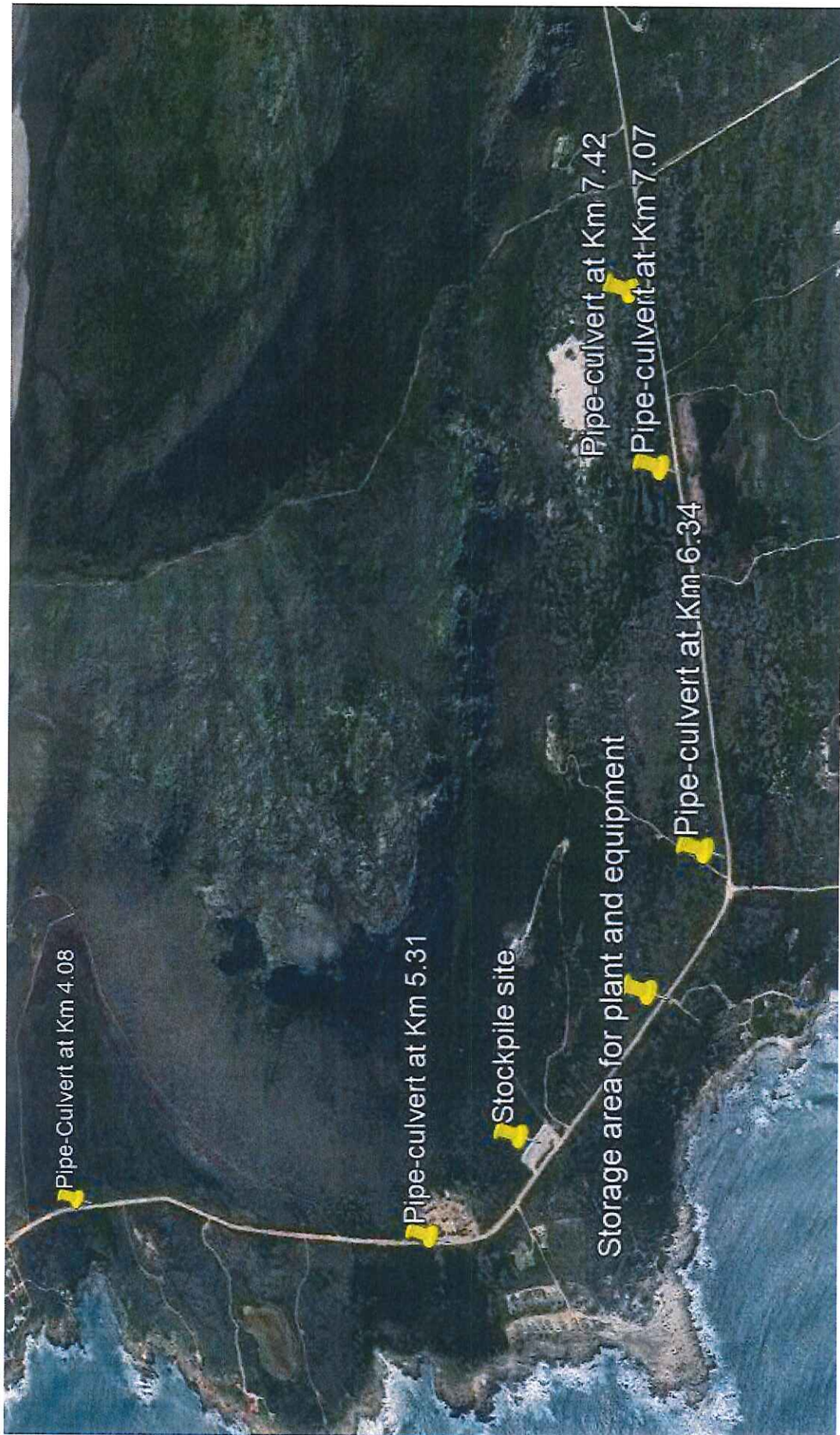


Figure 6: Site inspection map

## The pipe- culvert at km 4.08



Figure 7: Culvert at km 4.08 inlet after construction.



Figure 8: Culvert at km 4.08 outlet during construction



Figure 9: Culvert at km 4.08 outlet - Drainage channel



Figure 10: Culvert at km 4.08 outlet after construction.

## The pipe- culvert at km 6.34



Figure 11: Drainage channel at culvert at km 6.34 outlet



Figure 12: Alien vegetation regrowth

## The pipe- culvert at km 7.07 & 7.42



Figure 13: Excavation of culvert at km 7.07



Figure 14: Excavation of culvert at km 7.42

## Stockpile site



Figure 15: Acacia Cyclops visible on the topsoil stockpile

## Storage area for plant and equipment



Figure 16: Construction site: Storage area for plant and equipment



Figure 17: Construction site: Storage area for plant and equipment



**Water abstraction point**



Figure 18: Water abstraction point –09/01/2020



Figure 19: Water abstraction point –20/01/2020



Figure 20: Water abstraction point –31/01/2020



## ECO findings


- The project restarted on 13 January 2020 with the excavation of culvert at km 4.08, 7.07 and 7.42. Due to heavy rain a drainage channel (figure 9) had to be cleared to allow for water flow at culvert at km 4.08. Excavation at culverts 7.07 and 7.42 is done manually to limit the impact on the surrounding environment.
- Alien vegetation regrowth has been observed at the drainage line at culvert 6.34. The site needs to be rehabilitated according to the approved Rehabilitation Plan. Alien vegetation control also needs to take place at the topsoil stockpile.
- Continued monitoring is taking place at the water abstraction site.
- The storage area for the plant and equipment needs to be maintained. The refuse bin needs to be closed and all grease and oil spills removed. There are no drip trays on site.

## 4. Issues and complaints

Date submitted	Description of issue	Response to issue	Responsible person
1 10 Sept 2019	<p>From: Cllr Fanie Krige</p> <p>Hi Denovan and Tamzyn</p> <p>I received a call from Susan van Niekerk (083 361 4325 about abovementioned issues. She is the owner of a small holding close to the water works and uses the causeway to get access to her plot. There is also a servitude over her plot for the main water line which is also used for checks.</p> <p>Her concerns are:</p> <ol style="list-style-type: none"> <li>1. Water is currently collected at the causeway for the road building project between Pringle Bay and Sea Farm. The quantities collected are huge and this will continue on a daily basis until next year May. She is worried that it is going to affect the wetlands and the estuary, but can't get hold of any authority to investigate this. Tamzyn, can you check with Environmental Affairs if they know about this, if there is an agreement in place and what conditions or controls are in place, please.</li> <li>2. The water truck as well as the heavy duty vehicles delivering chemicals to the water works are damaging the bridge and the road is also in a bad state.</li> </ol>	<p>A site meeting was attended on 18 September 2019 with Ms S. van Niekerk, DPWT and ODM's Environmental Management Services Department (acting as ECO).</p> <p>The current site has been historically used as a water abstraction point by the DPWT. Due to the road construction project currently underway the volume of abstraction is considerably higher than in the past. This rate of abstraction (<math>\pm</math> 80 000L per day) is envisaged to continue until March 2020.</p> <p>It was agreed at the site meeting that alternative abstraction points will be investigated.</p> <p>Potential abstraction sites:</p> <ol style="list-style-type: none"> <li>1. The Overstrand Municipality water works;</li> <li>2. Buffels Dam</li> </ol>	<p>Investigation into an alternative abstraction point: DPWT</p> <p>Weekly monitoring: ECO</p>

2	30 October 2019	<p>3. The fence of the water works was run into by one of the trucks and needs repairs.</p> <p>4. There is a huge hole for the off-flow on site into which animals can fall and won't be able to come out of.</p> <p>5. I propose a site visit to go and see what this is all about. I am available on Thursday or Friday.</p> <p>Good day Rulien, Tamzyn and Francois,</p> <p>I am attaching a copy of the Attendance Register for the meeting and site visit we had on 18 October 2019 near Pringle Bay.</p> <p>In assessing the case, the following was deduced:</p> <ul style="list-style-type: none"> <li>a) The abstraction of raw water for dust suppression and construction, is not a permanent water use;</li> <li>b) This does not mean the water use would be automatic and can be exercised without authorisation/concession. Depending on the volumes taken, the appropriate authorisation needs to be put into place;</li> <li>c) The water is taken from the overflow of the Buffelsriver Dam, just outside Pringle Bay. This happens on Farm Hangklip 559/186, which belongs to Cape Nature (former 'Weskaapse Natuurbewaringsraad'). No water use is registered, but the large Buffelsriver Dam has been in existence and provides water for Overstrand municipality. The solution to this challenge perhaps lies with liaison with Cape Nature, as well as Overstrand Municipality, should a need for a concession be an option?;</li> </ul>	<p>The stream will be monitored on a weekly basis as part of the ECO inspections.</p> <p>(Points 2 – 5 is for the Local Municipality to address).</p>	
			<p>A site meeting was held on 18 October 2019 between BGCMA, Overstrand Municipality and ODM (appointed ECO) to discuss the water abstraction issue.</p>	<p>BGCMA to follow the CME route to deal with the anonymous.</p> <p>ODM to speak with CapeNature to investigate the possibility of getting access to the dam.</p>

	<p>d) The complainant asked why water cannot be taken directly from the Dam or WTW. It was explained that access to the dam seems to be the challenge, and that the District Roads section had ALWAYS taken the water from this specific point at the low-water bridge;</p> <p>e) No evidence of Validation &amp; Verification (Determination of Existing Lawful Use ELU or Historic use) participation was found for this specific property;</p> <p>f) The ecological flows needed to sustain the estuarine functionality is questionable , and I have asked our Freshwater Ecologist to assist perhaps?</p> <p>It is challenging to see the direct risk of water pollution, and if this is the case, it certainly would be negligible (trucks; possible diesel and oil spill at abstraction point??). However, with a decrease in flow, then obviously other factors come into effect which could impact the quality of water within the estuarine system.</p> <p>I therefore suggested our CME (Compliance Monitoring and Enforcement section) takes over this case and that I will be assisting where necessary.</p> <p>I included the CME manager, Ms Nolutando Ndlumbini into this communication. Nolutando, the complainant opted to remain anonymous, but somehow, the official BGCMA complaint form should be sent to the person, even though this complaint came to us via the Vuvuzela hotline.</p> <p>Kind regards and thanks,</p> <p><b>Fabion Smith</b></p>		
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		 <p><b>BREEDE-GOURITZ</b> AGRICULTURAL CONSULTANTS</p>		
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