



September 2019

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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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 September 2019 and is the first ECO report for this project.

The following areas were inspected during weekly site inspections. The pipe- culvert at km 4.08

- The pipe- culvert at km 5.31
- 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

Compliance score:

Monitoring categories	Conformance Score (%)
Western Cape Government: Environmental Authorisation	80%
Environmental management programme	83%
Rehabilitation report	Not applicable yet
Contractor's method statements	88%
TOTAL	84%

Issues of concern identified during the inspection:

- There was a delayed appointment of an ECO which had to be clarified by the CA. Initial clearing activities already commenced prior to the appointment of the ECO.
- Limited surveys were done to determine if search and rescue of species of conservation concern was required.
- Water abstraction is currently taking place below the Buffels Rivier dam. This point was historically been used by the DPWT when doing maintenance on the gravel road. Alternative water sources are currently being investigated. The abstraction point is also monitored on a weekly basis to determine the impact.

- The storage area for the plant and equipment was not part of the Basic Assessment process but was necessary due to the limited space available at the stockpile site. Consent was obtained from the landowner. The site is heavily infested with *Acacia Cyclops*.
- No information signage was put in place. This was communicated to the DPWT on 18 September 2019.

Way forward:

- Weekly ECO monitoring inspections will be conducted for the duration of the project.
- An alternative water abstraction point needs to be investigated. Arrangements will be made between DPWT and Overstrand Municipality.
- Information signage should be placed at the construction site as prescribed in the EMPr.
- All grease spills should be cleaned in accordance with the relevant method statements.

Project Team			
Contact person	Position	Organisation	Email address
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Report approval

Project name: Upgrade of existing degraded pip 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.

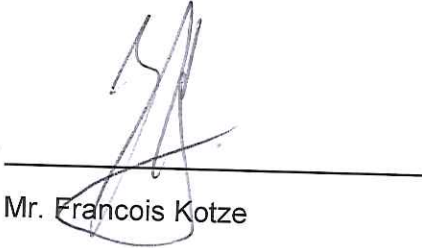
Report title: Environmental Control Officer Monthly Report

Authors: F Kotze, R Volschenk

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

Compliance Report no.: 1

Report signed off by appointed ECO



Mr. Francois Kotze

Manager: Environmental Management

Submission date to project manager:

07/10/2019
Date

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List of acronyms and abbreviations

BAR	Basic Assessment Report
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

Alien species	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.
Biodiversity	The rich variety of plants and animals that live in their own environment. Fynbos is a good example of rich biodiversity in the Cape.
Competent Authority	Refers to the Western Cape Government Department of Environmental Affairs and Development Planning.
Contamination	Polluting or making something impure.
Corrective (or remedial) action	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.
Ecosystem	The relationship and interaction between plants, animals and the non-living environment.
Environment	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.
Environmental Authorisation	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.
Habitat	The physical environment that is home to plants and animals in an area, and where they live, feed and reproduce.
Hazardous waste	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.
Impact	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.
Indigenous species	Plants and animals that are naturally found in an area.

Infrastructure	The network of facilities and services that are needed for economic activities, e.g. roads, electricity, water, sewerage.
Mitigation	Measures designed to avoid, reduce or remedy adverse impacts.
Natural environment	Our physical surroundings, including plants and animals, when they are unspoiled by human activities.
Rehabilitation	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.
Resources	Parts of our natural environment that we use and protect, e.g. land, forests, water, wildlife, and minerals.
Storm water management	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.
Waste Management	Classifying, recycling, treatment and disposal of waste generated during construction and decommissioning activities.
Wetlands	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).

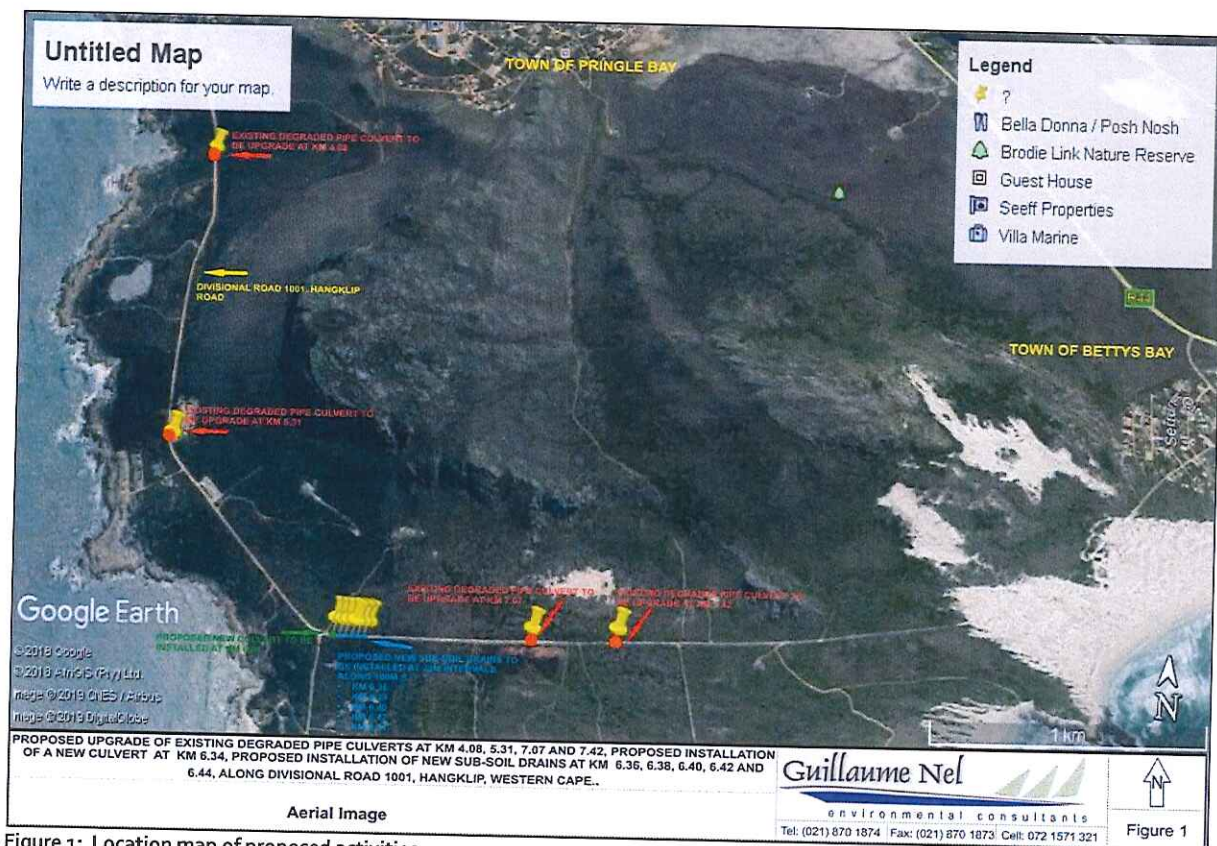


Figure 1: Location map of proposed activities

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 18 September 2019 to 30 September 2019.

Summary of Monthly ECO Monitoring Checklist: August 2019

Monitoring categories	Conformance Score (%)
Western Cape Government: Environmental Authorisation	80%
Environmental management programme	83%
Rehabilitation report	Not applicable
Contractor's method statements	88%
TOTAL	84%

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
Monitoring		
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
A copy of the EA, EMPr, 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 EMPr 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.
Auditing		
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 – November 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 www.odm.org.za
Specific conditions		
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 activities. Wetland features beyond the	0	Partial compliance. The construction sites are demarcated to some extent, but the boundary between

construction footprint must be demarcated as "no-go" areas.		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
Pre-construction: Awareness and training		
Environmental awareness induction session.	0	Partial compliance. Construction activities was already underway with no record that environmental awareness has been conducted. The contents of the EMP was discussed with the site supervisor. Ongoing discussions with the work team regarding specific environmental issues.
Erecting of public information boards.	0	No information boards on site.
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.
Pre-construction: Site documentation		
Access negotiations and physical access plan.	2	There is a site plan.
Site daily diary / instruction book.	0	Not been implemented yet. Template has been created as a rectifying measure
Records of all remediation / rehabilitation activities	2	Rehabilitation plan is on site. To be implemented after construction.

Copies of EO/ESO reports	0	Not been implemented yet. Template has been created as a rectifying measure
Environmental Management Programme	2	Compliant
Complaints register	2	Compliant.
Pre-construction: Site demarcation and development		
The project area and construction footprint must be clearly demarcated.	2	Construction areas are clearly demarcated.
Pre-construction + construction: Flora		
Prior to construction a search and rescue for seeds, plants and geophytes need to be conducted within the construction footprint.	0	No 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.
Pre-construction+ construction: Fauna		
All possible sensitive faunal species found within the construction footprint must be rescued and relocated to the natural adjacent areas.	2	Compliant
Pre-construction+ construction: Topsoil		
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
Construction: Stockpiles		
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 has been observed on stockpile.
Stockpiles must not be higher than 1.5m to avoid compaction thereby maintaining the soil integrity and chemical composition.	2	Compliant
Construction: Materials		
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.
Construction: Oils and chemicals		
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.	0	Partially compliant. Only one spill kit on site.
All spilled hazardous substances must be contained in impermeable containers for removal to a General & Hazardous Waste Landfill site, (this includes contaminated soils, and drenched spill kit material).	2	Compliant
Construction: Cement		
Cement must be mixed and transported in leak and splash proof containers.	2	Not applicable. Cement work has not yet commenced.
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	Not applicable. Cement work has not yet commenced.
Cement batching areas must be located in an area that does not fall within sensitive areas such as river systems.	2	Not applicable. Cement work has not yet commenced.
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	Not applicable. Cement work has not yet commenced.
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	Not applicable. Cement work has not yet commenced.
All empty cement bags are to be picked up immediately.	2	Not applicable. Cement work has not yet commenced.
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	Not applicable. Cement work has not yet commenced.
Construction: Dangerous and toxic materials (storage facilities)		
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. No dangerous and toxic materials are stored on site.
Storage facilities should be bunded, roofed, secure, rain, wind and tamper proof.	2	Not applicable. No dangerous and toxic materials are stored on site.

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. No dangerous and toxic materials are stored on site.
Empty containers shall be removed to a General & Hazardous Waste Landfill site.	2	Not applicable. No dangerous and toxic materials are stored on site.
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	One bin on site. No lid.
Designated areas for smoking must be provided.	0	No designated smoke area.
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.	0	No records.
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 wastes 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	No potable water is used for construction activities.
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
Construction: Workshop equipment, maintenance and storage		
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
Construction: Noise		
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.
Construction: Crew camps		
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
Construction: Erosion and sediment		
Visual inspections of the construction area and the watercourses should be undertaken frequently.	2	Done weekly.
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

Construction: Access route/haul roads		
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.
Construction: Crime, safety and security		
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
Construction: Visual impact		
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 is removed on a daily basis.
Construction: Hydrology		
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.
Construction: Soil and groundwater		
The surface 0.25m of topsoil is to be kept separate from the excavated subsurface layers.	0	Partially compliant. The topsoil layer is distinguishable among other

		stockpile material but due to limited space the stockpile cannot be clearly separated.
Topsoil is to be replaced in the location it was removed from after construction activities is completed, such that the surface layers are replaced so that they again form the surface layers here following construction activities.	2	Will be done in accordance with the Rehabilitation plan.
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: 83%

Total compliance weight: 164

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
Alien clearing management		

An alien clearing Management Plan need to be implemented for at least one year after rehabilitation	2	Not applicable for this report
Rehabilitation by means of pocket planting and hand sowing		
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
Ripping and shaping prior to rehabilitation		
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
Cordoning off rehabilitated area		
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
Timing of rehabilitation		
Planting will be at the beginning of the rainy season.	2	Not applicable for this report

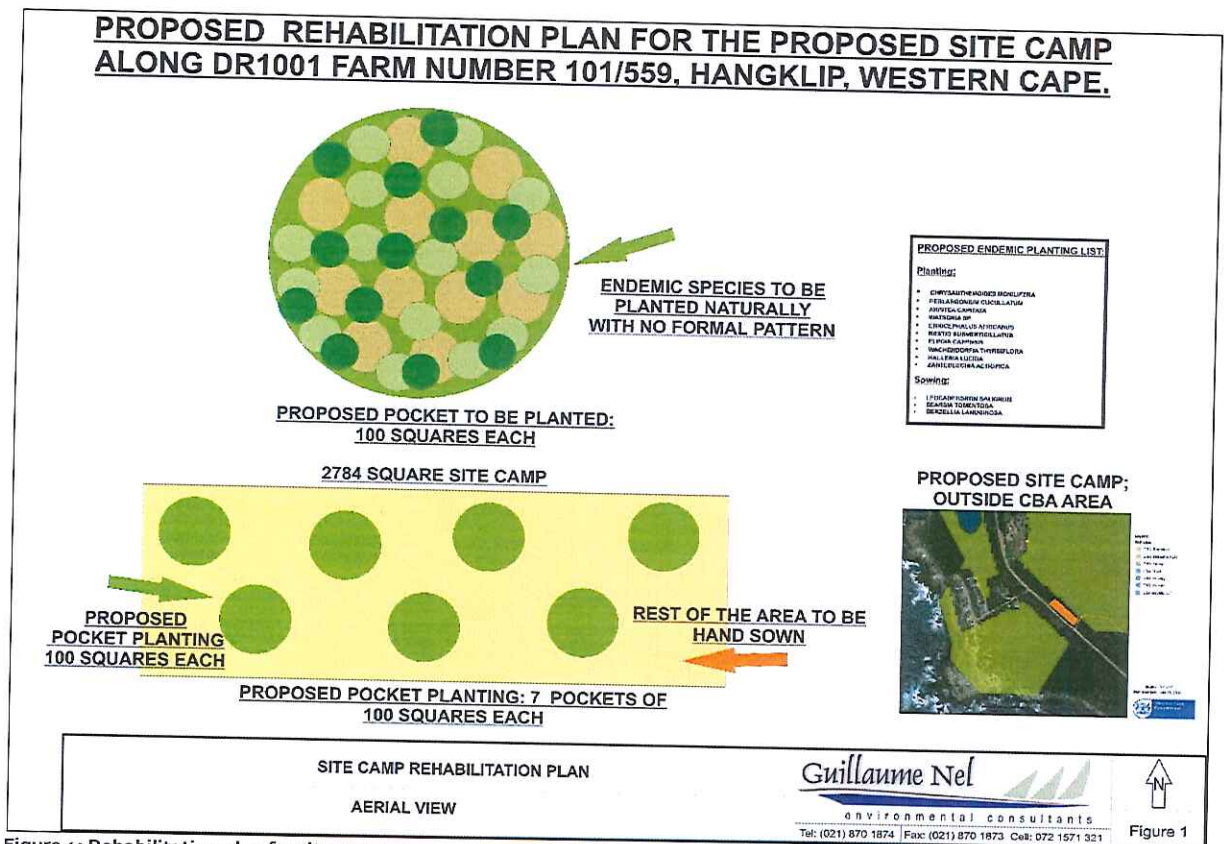


Figure 4: Rehabilitation plan for site camp

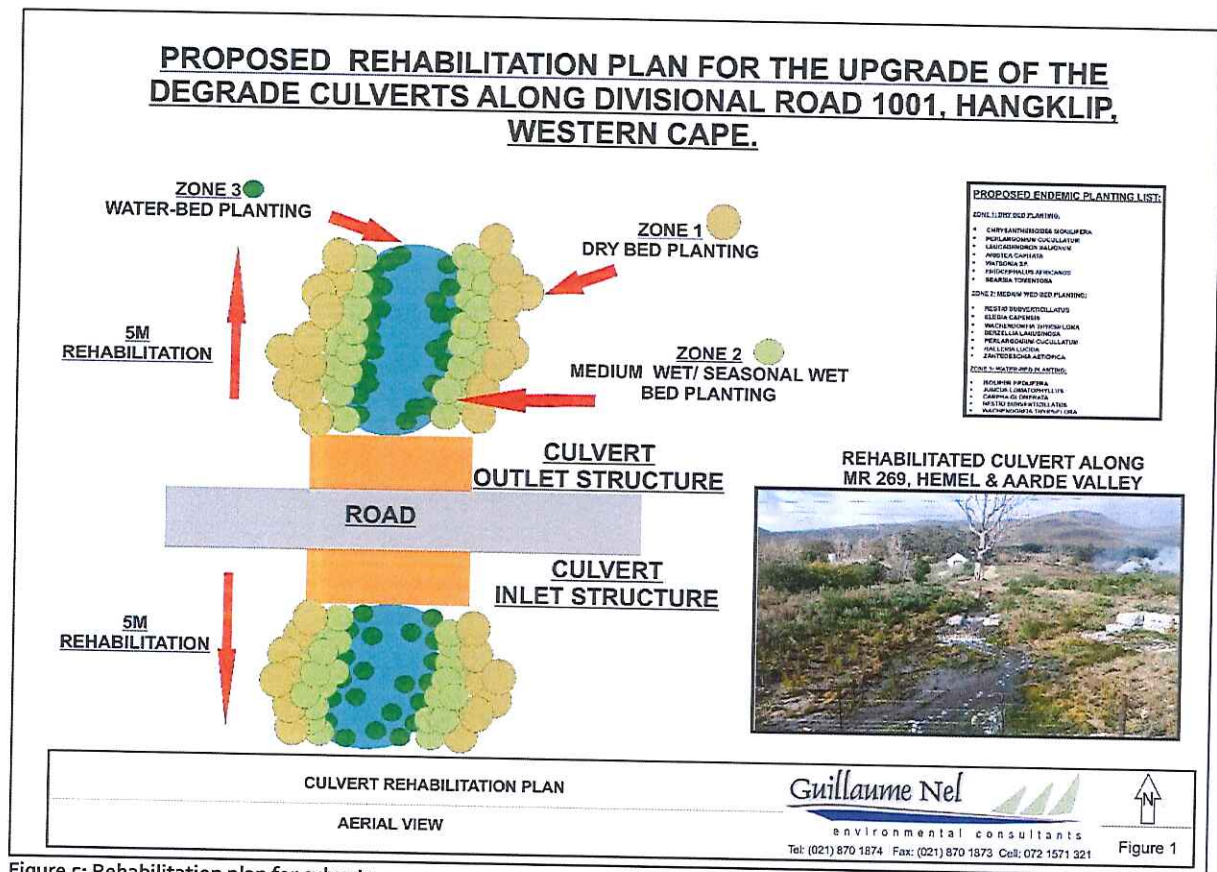


Figure 5: Rehabilitation plan for culverts

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

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

The following areas were inspected during weekly site inspections. (Refer to Figure 6 for the location of each site).

- The pipe- culvert at km 4.08
- The pipe- culvert at km 5.31
- 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

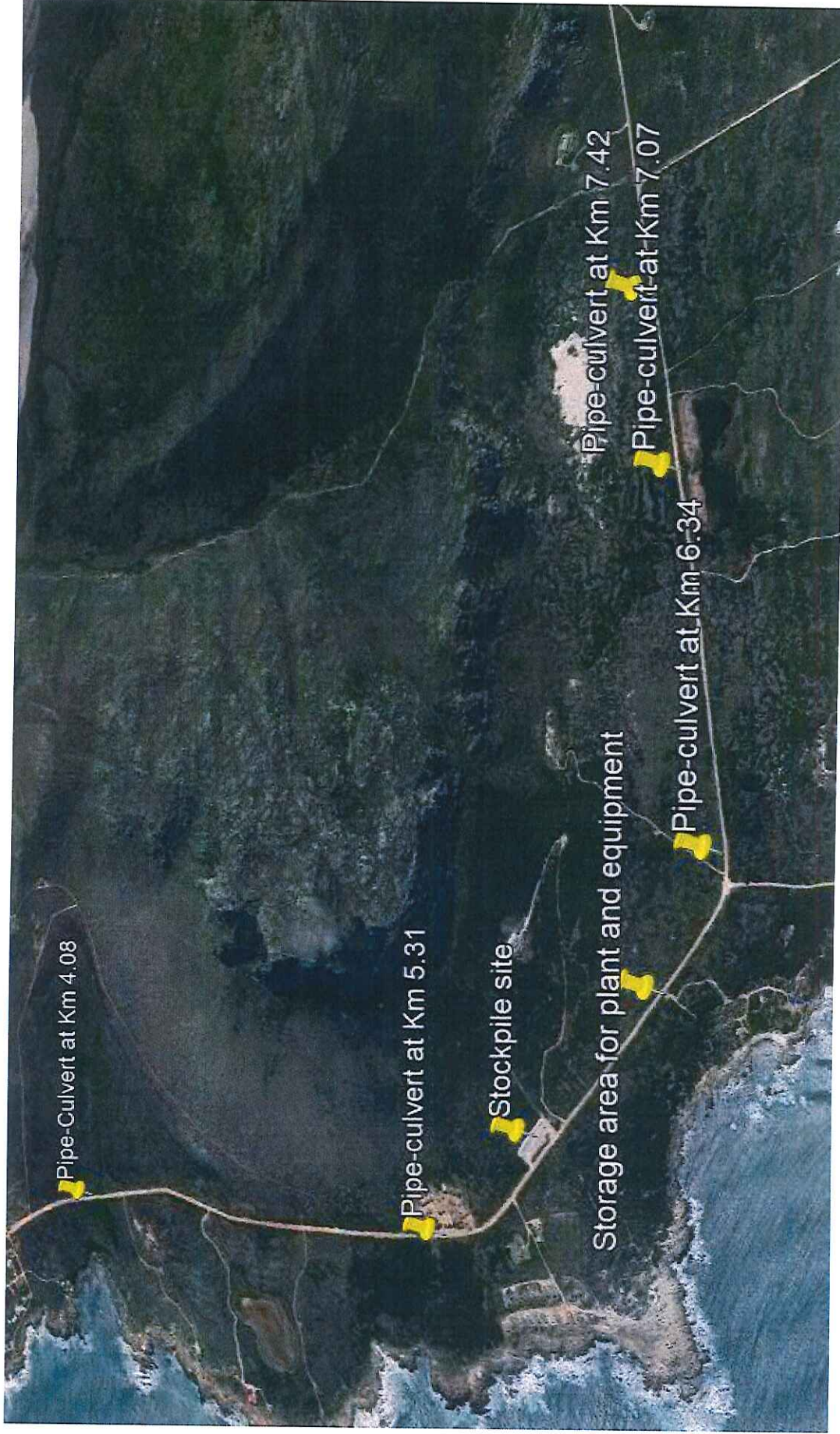


Figure 6: Site inspection map

The pipe- culvert at km 4.08



Figure 7: Construction site: Pipe-culvert at km 4.08

The pipe- culvert at km 5.31

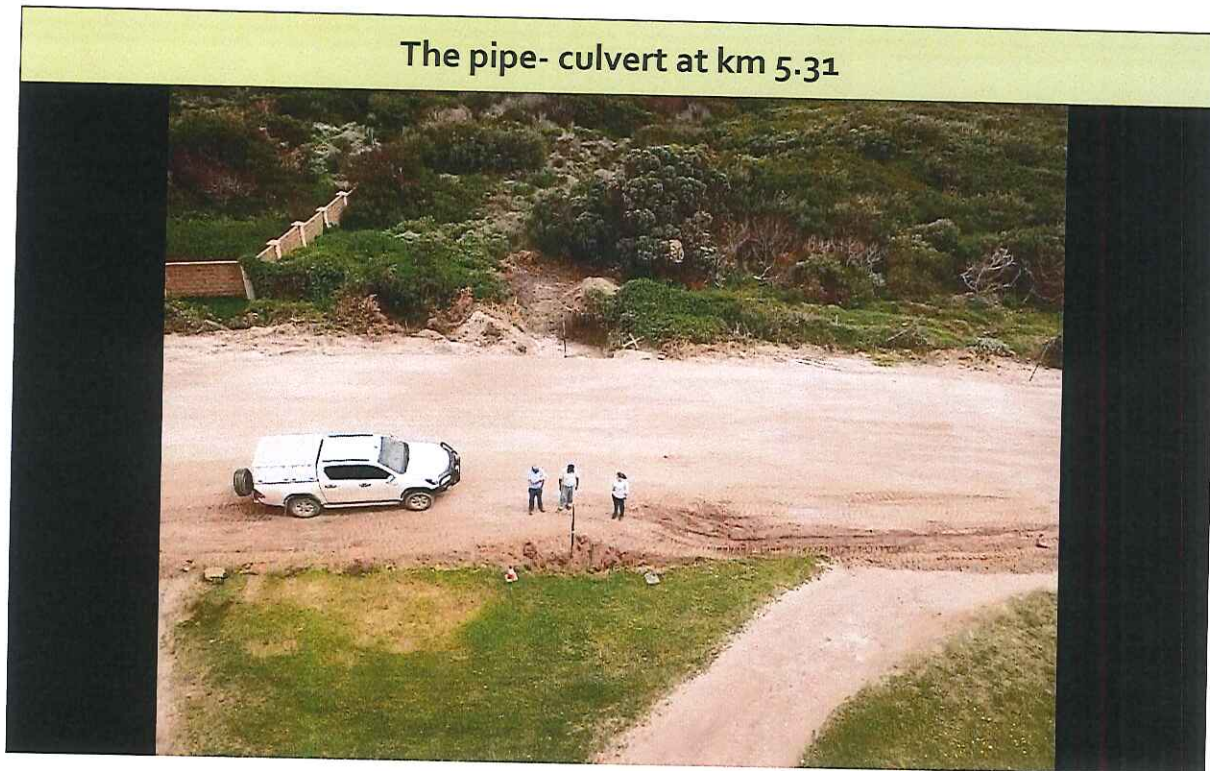


Figure 8: Construction site: Pipe-culvert at km 5.31

The pipe- culvert at km 6.34



Figure 9: Construction site: Pipe-culvert at km 6.34

The pipe- culvert at km 7.07



Figure 10: Construction site: Pipe-culvert at km 7.07

The pipe- culvert at km 7.42



Figure 11: Construction site: Pipe-culvert at km 7.42

Stockpile site



Figure 12: Construction site: Stockpile site

Storage area for plant and equipment



Figure 13: Construction site: Storage area for plant and equipment

ECO findings

- Since construction activities already commenced prior to the appointment of the ECO, no surveys were done to determine if search and rescue of species of conservation concern was required.

Surveys during the site inspection identified *Osteospermum moniliferum* (Bietou), *Metalasia muricata* (Blombos), *Rhus glauca*, *Cyclosorus interruptus*, *Zantedeschia aethiopica* (Arum lily), *Cussonia thyrsoiflora* (Kiepersol) and *restio spp.* as species that was impacted by the construction activities.

- Water abstraction is currently taking place at a point in the Buffels Rivier. This point has historically been used by the DPWT when doing maintenance on the gravel road. Alternative water sources are currently being investigated. The abstraction point is also monitored on a weekly basis to determine the impact.



Figure 14: Water abstraction point

- The storage area for the plant and equipment was not part of the Basic Assessment process but was necessary due to the limited space available at the stockpile site. Consent was obtained from the landowner. The site is heavily infested with *Acacia Cyclops*.

An ablution facility was made available on site (Figure 15). Upon inspection several grease spills (Figure 16) were detected.



Figure 15: Ablution facilities and refuse bin.



Figure 16: Grease spill

- No information signage was put in place. This was communicated to the Department on 18 September 2019.

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 above mentioned 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"> 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. 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. 	<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 (\pm 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"> 1. The Overstrand Municipality water works; 2. Buffels Dam 	<p>Investigation into an alternative abstraction point: DPWT</p> <p>Weekly monitoring: ECO</p>

		<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>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>	
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